

Physics and Philosophy of Nature in
Greek Neoplatonism

Philosophia Antiqua

A Series of Studies on Ancient Philosophy

Previous Editors

J.H. Waszink †
W.J. Verdenius †
J.C.M. Van Winden

Edited by

K.A. Algra
F.A.J. De Haas
J. Mansfeld
C.J. Rowe
D.T. Runia
Ch. Wildberg

VOLUME 115

Physics and Philosophy of Nature in Greek Neoplatonism

Proceedings of the European Science
Foundation Exploratory Workshop
(Il Ciocco, Castelveccchio Pascoli,
June 22–24, 2006)

Edited by
Riccardo Chiaradonna and Franco Trabattoni



BRILL

LEIDEN • BOSTON

2009

This book is printed on acid-free paper.

Library of Congress Cataloging-in-Publication Data

European Science Foundation Exploratory Workshop (2006 : Il Ciocco, Castelveccchio-Pascoli, Italy)

Physics and philosophy of nature in Greek Neoplatonism : proceedings of the European Science Foundation Exploratory Workshop (Il Ciocco, Castelveccchio-Pascoli, June 22-24, 2006) / edited by Riccardo Chiaradonna and Franco Trabattoni.

p. cm. — (Philosophia Antiqua)

Includes bibliographical references.

ISBN 978-90-04-17380-4 (hardback : alk. paper) 1. Neoplatonism. 2. Philosophy of nature. 3. Physics—Philosophy. I. Chiaradonna, Riccardo. II. Trabattoni, Franco. III. Title. IV. Series.

B517.E87 2006

113.0938—dc22

2008052343

ISSN 0079-1687

ISBN 978 90 04 17380 4

Copyright 2009 by Koninklijke Brill NV, Leiden, The Netherlands.
Koninklijke Brill NV incorporates the imprints Brill, Hotei Publishing,
IDC Publishers, Martinus Nijhoff Publishers and VSP.

All rights reserved. No part of this publication may be reproduced, translated, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission from the publisher.

Authorization to photocopy items for internal or personal use is granted by Koninklijke Brill NV provided that the appropriate fees are paid directly to The Copyright Clearance Center, 222 Rosewood Drive, Suite 910, Danvers, MA 01923, USA.
Fees are subject to change.

PRINTED IN THE NETHERLANDS

CONTENTS

Introduction	1
<i>Riccardo Chiaradonna, Franco Trabattoni</i>	
Contre le mouvement rectiligne naturel: Trois adversaires (Xénarque, Ptolémée, Plotin) pour une thèse	17
<i>Marwan Rashed</i>	
Le traité de Galien <i>Sur la Démonstration</i> et sa postérité tardo-antique	43
<i>Riccardo Chiaradonna</i>	
Plotinus on quality and immanent form	79
<i>George Karamanolis</i>	
As we are always speaking of them and using their names on every occasion. Plotinus, <i>Enn.</i> III.7 [45]: Language, experience and the philosophy of time in Neoplatonism	101
<i>Robbert M. van den Berg</i>	
A world of thoughts: Plotinus on nature and contemplation (<i>Enn.</i> III.8 [30] 1–6)	121
<i>Christian Wildberg</i>	
Causality and sensible objects: A comparison between Plotinus and Proclus	145
<i>Chiara Russi</i>	
Physis as Heimarmene: On some fundamental principles of the Neoplatonic philosophy of nature	173
<i>Alessandro Linguì</i>	
The integration of Aristotelian physics in a Neoplatonic context: Proclus on movers and divisibility	189
<i>Jan Opsomer</i>	

Proclus on matter and physical necessity	231
<i>Gerd Van Riel</i>	
The divine Earth: Proclus on <i>Tímaeus</i> 40 bc	259
<i>Carlos Steel</i>	
Bibliography	283
Index of Ancient and Medieval Authors	297
Index of Modern Authors	299
Index Locorum	302

INTRODUCTION

Riccardo Chiaradonna, Franco Trabattoni

I

Greek Neoplatonism¹ is among the most metaphysically and theologically oriented traditions in Western philosophy. This is a widely agreed and somewhat uncontroversial assumption. Consequently, Neoplatonists had little (or no) interest in the philosophical understanding of nature: or so scholars argued, *until a couple of decades ago*. There is almost no place for Neoplatonic natural philosophy in the highly influential chapters on Plotinus and Proclus of Hegel's *Vorlesungen über die Geschichte der Philosophie*; similarly, Zeller does not discuss Plotinus' and Proclus' views on the sensible world in depth.² To consider a more recent example, Émile Bréhier's book *La philosophie de Plotin* neglects Plotinus' view of bodies and nature.³ Such omissions might appear somewhat justified: after all, in *Enn.* V.1 [10] 7.49, Plotinus claims that 'divine beings' extend up to the Soul; what occurs below the Soul occurs outside divine realities, *i.e.* beyond what may be taken as the focus of Plotinus' thought.⁴

¹ Following convention, we here employ 'Neoplatonism' as a convenient label for Greek philosophy from Plotinus down to the 6th century CE. Widespread use of this expression, however, should not conceal two important facts. (1) 'Neoplatonism' is a modern historical category, which dates from the 18th century (for a concise overview see Halfwassen [2004] 12–13): late-antique Platonists did not regard themselves as 'Neoplatonists'. (2) Platonism from Plotinus to Damascius is a highly differentiated philosophical tradition: Neoplatonic authors certainly share some important features in common (*e.g.* the reception of Aristotle's writings, the theological interpretation of Plato's *Parmenides*, etc.), but these similarities should not prevent us from recognizing the underlying differences in their thought. See Praechter [1910]: whatever the plausibility of Praechter's more specific conclusions, his methodological stance remains perfectly valid.

² See Hegel (1965) 37–92; Zeller (1923) 598–627 (Plotinus); 869–874 (Proclus). Significantly, Schelling, whose conception of nature has often been paralleled with that of Plotinus, was only superficially acquainted with the *Enneads*. On the reception of Plotinus in the German Romantic and Idealistic movement, see Beierwaltes (2004).

³ See Bréhier (1928) (see, however, Bréhiers' 'Appendice' 'Le monde sensible et la matière', pp. 189–207).

⁴ See Bréhier (1928) v: '... nous arrêtons là où, selon son expression, "s'arrêtent les choses divines", c'est-à-dire à l'âme, au-dessous de laquelle il n'y a plus que le désordre et la laideur de la matière'.

A further example is provided by Heinrich Dörrie's book *Porphyrios' Symmikta Zetemata*, to this day one of the most detailed studies of Porphyry's philosophy. Notoriously, the notion of the 'bodiless' is assigned a crucial position in Porphyry's ontology, which includes both immanent-physical and separate-metaphysical incorporeal entities. Yet Dörrie's peremptory conclusion is that for Plotinus and Porphyry immanent incorporeal qualities are of no 'ontological interest'.⁵ Again, a similar conclusion might appear legitimate: Plotinus and Porphyry are (Neo)platonists; as such, they seek transcendence and have no interest in the dark realm of bodies and matter. While their discussion of what belongs to this realm should not be ignored completely, it can be regarded as little more than a marginal feature of their philosophies.

Bréhier's and Dörrie's works are old and somewhat outdated, as their overall interpretations have substantially been revised.⁶ It should also be noted that neglect of the historical and philosophical significance of Neoplatonic natural philosophy is not a universal feature of the older generation of scholars: Shlomo Pines' seminal contributions are there to prove it.⁷ And yet, the abovementioned tendency to minimise the significance of natural philosophy within Greek Neoplatonism can still be seen to reflect *communis opinio*. According to this perspective, if Neoplatonism deserves to be made the object of historical and philosophical enquiry, it is by no means on account of its analysis of physical reality. To counter this suggestion, at least two general remarks can be formulated. The first is a mere factual point: if Neoplatonists were not interested in physics, why did they devote so much time and energy to the philosophical analysis of the sensible world? According to Porphyry, a whole *Ennead* (the second one) collects Plotinus' treatises on 'physics' (*V. Plot.* 24 37): this fact alone suggests that the subject was not of minor importance for Plotinus. The presence of natural philosophy in Plotinus' works, however, is far more pervasive than what Porphyry's editorial choices suggests: extensive discussions on matter, nature, physical motion and bodies are scattered throughout the enneadic *corpus*,

⁵ See Dörrie (1959) 183.

⁶ This might come across as a harsh assessment, especially as far as Bréhier's work is concerned. It is worth noting that Bréhier's treatment of the intelligible world is still extremely valuable; furthermore, his introductory *Notices* to Plotinus' treatises, which feature in the translated edition of the *Enneads* published by Les Belles Lettres, provide a magisterial (and often unsurpassed) synopsis of Plotinus' philosophy.

⁷ See the papers collected in Pines (1986).

from the first *Ennead* (see *e.g.* the celebrated treatment of matter in I 8 [51]) to the sixth (see the discussion of physical substance and motion in treatises VI 1–3 [42–44] *On the Genera of Being*). Porphyry devoted an entire commentary to Aristotle's *Physics* (cf. 119–161 F. Smith); and although Porphyry's works have largely been lost, those which survive, either in their entirety or in fragments, feature substantial discussions on the structure of natural beings and their principles. Among later authors, Proclus' extensive commentary on Plato's *Timaeus* and the whole *corpus* of Neoplatonic commentaries on Aristotle's physical works provide sufficient evidence to suggest that natural philosophy was far from a marginal subject in Greek Neoplatonism. While the fact that Neoplatonists developed a political philosophy can still (if maybe unjustifiedly) be regarded as controversial,⁸ the fact that they developed a philosophy of nature (or, rather, several concurrent Platonic or Platonising philosophies of nature) is both evident and undeniable. The second remark that can be made is a conceptual one: the fact that Neoplatonists were interested in metaphysics does not imply that they ignored physics. This traditional assessment might even be reversed: a committed metaphysical philosopher will not ignore physics; rather, he will do his best to prove that a satisfying account of the natural world can only be reached by positing metaphysical causes. Metaphysics, then, can also function (and *did* function in Greek Neoplatonism) as a powerful tool towards the understanding of the physical world. Neoplatonic speculations on causality, change, space and motion provide ample evidence to support this claim.

As noted above, Bréhier's and Dörrie's assessments are now outdated. It is certainly the case that in the last 20–25 years, scholars have increasingly focused on the natural philosophy of Greek Neoplatonism. Several specialists are responsible for this change of attitude; among them is Richard Sorabji, who contributed more than anyone else to the study of this topic. Two aspects of his scientific work can be singled out. Firstly, Sorabji has devoted a number of seminal studies to ancient physical theories: these studies neither neglect late-antique thought nor treat it in isolation, but acknowledge it as an integral part of the ancient philosophy of nature. Sorabji has also stressed the impressive historical and philosophical legacy of late-antique natural philosophy in both

⁸ For a challenging account of the Neoplatonic political thought see O'Meara (2003).

Eastern and Western philosophical traditions, both in the Middle Ages and beyond.⁹ Secondly, Sorabji has drawn attention to the Neoplatonic commentators on Aristotle, whose writings are the largest (and were, until recent times, the most neglected) philosophical *corpus* of the ancient world. 'Aristotelianism' and 'Neoplatonism' were (and occasionally still are) regarded as alternative historical categories. At least from a historical point of view, this is simply misleading: from Porphyry onward, all Neoplatonic philosophers, to varying degrees, argued in favour of the philosophical harmony between Plato and Aristotle; providing a detailed interpretation of Aristotle's treatises was a significant way for them of being 'Platonists'.¹⁰ Plotinus too, who according to some interpreters did not share the harmonising attitude of his disciple,¹¹ constantly employs Aristotelian and Peripatetic concepts in his writing: the philosophical framework of the *Enneads* cannot be understood outside this extensive confrontation with Aristotle (and Aristotelian commentators). In the long run, Sorabji's intuitions proved influential: Neoplatonic philosophy of nature is now the focus of several studies, and scholarship on ancient Neoplatonic commentators is flourishing. Some 20 years ago, Michael Frede provocatively wrote that late-antique thought was usually (albeit unjustifiedly) regarded as 'philosophically boring, if not repellent'.¹² One of the major changes to have occurred in this field of scholarly interest lies precisely in the radical modification of such an attitude among increasing numbers of specialists.

Much work remains to be done in order to provide an adequate understanding of the historical and philosophical depth of Greek Neoplatonism. A huge corpus of texts exists, which requires both time and effort to be adequately scrutinized. The workshop 'Physics and Philosophy of Nature in Greek Neoplatonism', held at Il Ciocco (Castelveccchio Pascoli) in June 2006, was conceived as a further contribution in this direction. The title requires some explanation. From the perspective of ancient thought, 'physics' and 'philosophy of nature' are largely equivalent expressions; yet, they may be seen to convey two different

⁹ I only refer to Sorabji (1983) and (1988).

¹⁰ See Sorabji (1990) 3–4; on Porphyry's views on the harmony between Plato and Aristotle see Karamanolis (2006).

¹¹ On Plotinus' critical attitude toward Aristotle see, for example, Wurm (1973). For a more philo-aristotelian account of Plotinus' philosophy see Horn (1995).

¹² See Frede (1987) xx.

meanings (or at least different nuances). While the term ‘physics’ may simply refer to the ‘understanding of nature’, the expression ‘philosophy of nature’ can be taken to allude to the place of the understanding of nature within a more comprehensive philosophical discourse (which also includes, among other things, metaphysics, theology and the theory of soul). The title ‘physics and philosophy of nature’ aims to convey the idea that these two perspectives are not separable in Greek Neoplatonism. Firstly, the understanding of nature is an integral part of Greek Neoplatonism in all of its historical and conceptual varieties from Plotinus to Simplicius. Secondly, the understanding of nature cannot be isolated from the main philosophical tenets of Neoplatonism (such as the doctrine of being and theory of metaphysical causes).

Late-antique understanding of the natural world, it may be argued, involved a sort of ‘physical instantiation’ of metaphysical principles. The legacy of Plato’s *Timaeus* was substantial in this respect: as the papers collected in this volume suggest, this dialogue was certainly the most important ‘source’ for Neoplatonic natural philosophy. However, one should not conclude that the understanding of nature on the part of Greek Neoplatonists was little more than a perpetual exegesis of the *Timaeus*. From the factual point of view, it is worth stressing that Plato’s *Timaeus* is far from the only source to have inspired the Neoplatonic philosophy of nature: as previously noted, Aristotle’s natural writings (and *Metaphysics*) also played a prominent role. It is worth noting, in this regard, that while Plotinus’ conception of the physical world is deeply indebted to the *Timaeus* (the presence of which is ubiquitous in the *Enneads*), the concepts Plotinus employs reveal marked Aristotelian and Peripatetic features (by contrast, they show almost no trace of the mathematical background of the *Timaeus*). Plotinus’ Platonic doctrine of the sensible world is actually built with Aristotelian bricks, used within a different philosophical framework (and this is the reason why the discussion of Aristotle plays such an important role in the *Enneads*). Such a conclusion holds *a fortiori* for Neoplatonists from Porphyry onward, who believed in the ‘harmony of Plato and Aristotle’ and often wrote extensive commentaries on Aristotle’s physical treatises.

More generally, it is important to note that the reception of Plato and Aristotle among late-antique authors is not separable from the reception of the previous commentary traditions on Plato and Aristotle. A cursory reading of Alains Segonds’ *Index Général* in Festugière’s translation of Proclus’ *In Timaeum* suffices to illustrate the extent of Proclus’ reception

of both Aristotle and the previous exegetical tradition on Plato.¹³ In turn, the reception of Aristotle was deeply influenced by the work of previous commentators: for example, Plotinus' and Porphyry's Aristotle was, at least partly, that of Alexander of Aphrodisias. The importance of the theory of the immanent essential form in the thought of Plotinus and Porphyry is likely to depend on Alexander's 'essentialistic' reading of Aristotle.¹⁴ Plato, Aristotle and the exegetical traditions on Plato and Aristotle, then, may be regarded as the main philosophical sources of late-antique natural philosophy; however, they are by no means the only ones. It is a matter of intrinsic philosophical interest and of great historical significance that authors such as Ptolemy or Galen and the Stoic tradition also played a significant (albeit secondary) role and shaped the philosophical background of the Neoplatonists. The interpretation of Plato and the systematic development of a Platonic conception of nature based on the *Timaeus* might then be envisaged as the crossroad between several sources.

The above suggestions might easily lead to the traditional charge of 'eclecticism', on which a few words need to be spent. A few cursory remarks can suffice to disprove this charge. Indeed, Greek Neoplatonists never aimed to develop a 'hybrid' Platonism: the Porphyrean principle according to which Plato and Aristotle are in agreement does not imply that Porphyry aimed to develop a *composite* doctrine where the best parts of Plato's philosophy were merged with the best parts of that of Aristotle. Neoplatonic philosophers aimed to be *Platonic*: they were not 'eclectic' from this point of view. However, remarks like these—somewhat reminiscent of Paul Moraux' well-known analysis of 'orthodoxy' in imperial Platonism¹⁵—are not entirely satisfying. From a strictly philosophical point of view, intentions are not always a good criterion of assessment: eclecticism is not merely a psychological attitude (assuredly, no Neoplatonist was eclectic from this point of view): eclecticism may also be regarded as a conceptual feature. From this point of view, it might be argued that, *despite their intentions*, Greek Neoplatonists, or at least some Neoplatonists, were unable to develop a unified concep-

¹³ See Segonds (1968).

¹⁴ Interesting evidence for this is provided by the widespread survival in the Neoplatonic tradition from Plotinus onwards of Alexander of Aphrodisias' doctrine that 'parts of substances are substances'. On Alexander of Aphrodisias' thesis see Rashed (2007a) 42–52; on its use at the hands of Plotinus and Porphyry see Chiaradonna (2005a).

¹⁵ See Moraux (1984) xxii; 445–448. On the historiographical notion of 'eclecticism' and its limits see too Donini (1988a).

tion of reality: what they provided might simply have been a (rather clumsy) synthesis or juxtaposition of different philosophical tenets. Only an in-depth philosophical analysis of Greek Neoplatonism can provide a satisfying answer to such questions. Accordingly, it is not sufficient to focus on the ‘sources’ of Neoplatonic natural philosophy: rather, it is necessary to address the question of whether such sources were uncritically collected and juxtaposed, or whether, on the contrary, their use occurred within a well-defined conceptual and philosophical framework. As will be emphasised below, the papers collected in this volume make a strong case in favour of the second hypothesis: that well-defined conceptual and philosophical co-ordinates shaped the Neoplatonic use of sources, and that the Neoplatonic attitude toward previous traditions was informed by these philosophical tenets.

These remarks lead to a related issue, that of the ‘exegetical character’ of Neoplatonism. An impressive trend in recent Neoplatonic studies focuses on late-antique *curricula*, on the methods of exegesis, on the agenda behind the reading of texts in late-antique philosophical schools.¹⁶ The results of these studies are highly significant and paint a detailed and challenging picture of both Neoplatonic philosophical culture and its legacy. However, one should not be led to conclude that Neoplatonism was a dogmatic tradition, in which the notion of ‘exegesis’ suffices to explain the genesis of philosophical ideas. The late-antique concept of exegesis is rather more complex: as it cannot be made the focus of detailed discussion here, suffice it to say that a mutual relation existed within Neoplatonism between exegesis and philosophy. On the one hand, the exegesis of authoritative texts shaped the genesis of philosophical ideas; but on the other, it was the structure of philosophical ideas that shaped the exegesis of the authoritative texts.¹⁷ It is for this reason that different Platonic authors provided alternative philosophical interpretations of the same authorities: merely to invoke their diverse methods of exegesis in this context would be insufficient. Once again, it is worth stressing that investigation of the sources of late-antique authors is only a part (albeit an important part) of a broader research focusing on the philosophy of Greek Neoplatonism.

¹⁶ With regard to the ongoing debate see the papers collected in D’Ancona (2007).

¹⁷ Something similar occurs in Alexander of Aphrodisias: on his concept of exegesis see the interesting remarks in Rashed (2007a) 1–6.

In order to provide a critical assessment of Neoplatonic natural philosophy, two general questions may be singled out: firstly, whether Neoplatonic authors ever proved capable of developing a unified conception of physical reality; secondly, if such an overall conception was (at least in principle) capable of providing rational explanations concerning natural phenomena in all their complexity.¹⁸ We will come back to these questions after a short overview of the articles collected in the present volume.

II

The papers presented in this book cover three centuries of natural philosophy from Plotinus to the late-antique commentators on Aristotle. As noted above, Neoplatonism did not emerge from a vacuum: its doctrines were significantly shaped by the reception of previous traditions. This reception was an elaborate process. The first two papers, by Marwan Rashed and Riccardo Chiaradonna, focus on the relation between the Neoplatonic philosophy of nature and some previous physical works and doctrines. Both contributions consider the philosophical transformations brought about by Neoplatonism and emphasise the differences between late-antique thought on nature and its antecedents.

Rashed examines Simplicius' claim (*In Cael.* 20.11–12 and 20.21) that Xenarchus, Ptolemy and Plotinus reacted against Aristotle's theory of elemental motions and maintained that elements in their natural status either rest or move in circle (cf. the parallel testimony on Ptolemy and Plotinus in Procl., *In Tim.* IV 3.114.24–115.2). Rashed argues that, despite their superficial similarities, the views of Xenarchus, Ptolemy and Plotinus are based on radically different assumptions. Xenarchus' doctrines were part of an exegetical project which aimed to simplify Aristotle's cosmology in order to solve some of its more aporetic aspects. Ptolemy's conception on the motion of celestial bodies, by contrast, represents a refinement of Aristotle's cosmology and does not involve the rejection of the fifth element. Finally, Plotinus' markedly anti-Aristotelian views on celestial bodies (cf. II 2 [17] and II 1 [40]) are determined by his overall philosophical assumptions on the status of motion and

¹⁸ The two questions are conveniently addressed in the paper by Alessandro Linguisti published in this volume.

on the causality of the soul. Simplicius' assessment, therefore, should be regarded as misleading. According to Rashed, the testimonies of Simplicius and Proclus were probably shaped by a conscious polemical strategy: both authors aimed to group authorities in order to react against the most anti-Platonic aspects of Aristotle's cosmology. The reservations expressed by the Athenian Neoplatonists against Aristotle, however, were limited to isolated aspects of his philosophy and substantially different from Plotinus' radically anti-Aristotelian stance.

Physics is not separable from the basic philosophical assumptions of Greek Neoplatonism: the Neoplatonic conception of nature is closely intertwined with metaphysics and ontology. The reception of Galen's works offers some interesting insights in this respect. Chiaradonna focuses on Galen's lost treatise *On Demonstration* and its reception in late Antiquity. His paper is divided into two parts: the first outlines the aims and structure of Galen's lost treatise; the second focuses on the reception of Galen's work among later authors (especially the Neoplatonic commentators on Aristotle). The general conclusion reached by Chiaradonna is that Galen is still deeply indebted to the Hellenistic philosophical traditions: epistemology is assigned a prominent position in his writing, while ontology is almost completely neglected. Changes instead occurred between the end of the 2nd century and the 3rd century CE (the age of Alexander of Aphrodisias and Plotinus), when the Hellenistic legacy came to an end, and ontology and metaphysics found new prominence. Galen's reception among later authors (Themistius, Simplicius, perhaps Plotinus) shows that his epistemological doctrines were adapted and criticised within a different philosophical framework.

The transition from the 2nd to the 3rd century CE can thus be seen to mark a crucial turn in the history of ancient philosophy.¹⁹ Plotinus is certainly the most important figure of the period. His natural philosophy is part of his ontology, while physics is envisaged in the *Enneads* as the 'ontology of the natural world'. George Karamanolis' paper focuses on the notions of 'quality' and 'immanent form' in Plotinus' theory of sensible substance. Several studies have recently been devoted to Plotinus' reception of Aristotle's substance: Karamanolis takes up the scholarly debate and provides a fresh assessment of some difficult Plotinian passages (II.6 [17] 2–3; VI.2 [43] 14; VI.3 [44] 8). As Karamanolis

¹⁹ See Frede (1999b) 793–797.

points out, Plotinus conceives of ‘quality’ in both a narrow and a wide sense. In the wide sense, all features of a sensible entity, according to Plotinus, represent qualities. But in a narrower and stricter sense, only accidental features are qualities, while immanent Forms contribute to the coming to being of something. Plotinus conceives of immanent forms as resulting from the activity of λόγοι, the intelligible forming principles. Yet immanent Forms merely resemble λόγοι: they are like them and in this sense can be described as ποιότητες. Karamanolis stresses the originality of Plotinus’ conception with respect to that of Plato, Aristotle, and the Stoics.

Robbert M. van den Berg focuses on Plotinus’ view of the physical world in the wider context of his epistemology. In some passages (III.7 [45] 1.1–10; 12.27–52; VI.5 [23] 1.1–14), Plotinus adopts the Hellenistic terminology for ‘common notions’; later Neoplatonists such as Porphyry, Augustine and Proclus made use of similar concepts. Van den Berg outlines the role of Neoplatonic common notions for the understanding of the natural world and provides a comprehensive interpretation of this theory within Plotinus’ (and Proclus’) metaphysics. Both Plotinus and Proclus distinguish between two types of common notions. Both philosophers speak of notions that derive from our experience of the physical world and coincide with the ordinary meaning of words. Such notions are based on our perception rather than on the metaphysical cause of phenomena; accordingly, they should be contrasted with another set of common notions that result from our contact with metaphysical reality. Articulation of these notions may indeed yield insight into the essence of things. The first type of common notion serves to test the validity of a theory: while these notions are not essential, any theory that fails to do justice to them is wrong, because it fails to ‘save the phenomena’.

The conception of causality lies at the very basis of Neoplatonic philosophy of nature. This issue is tackled in the papers of Christian Wildberg and Chiara Russi. Wildberg focuses on Plotinus’ celebrated treatise III.8 [30] *On Nature and Contemplation* and sets Plotinus’ radical ‘spiritualization’ of the physical world within the context of his overall account of causality. Wildberg shows that Plotinus’ natural philosophy provides a highly original synthesis of ‘bottom up’ and ‘top down’ accounts of causality. Since the whole realm of nature animates and regulates the world of phenomena by contemplating that which is above it, the top-down process of emanation is fielded by a bottom-up response of the lower hypostasis. Such general remarks facilitate the

discussion of Plotinus' controversial statements about nature's (productive) contemplation (θεωρία) in III.8 [30]. Wildberg singles out the multiple questions addressed by Plotinus in III.8 [30] 1.18–24. What is the cognitive activity of earth and plants? 2. How can we understand the products of nature as products of a cognitive ἐνέργεια, *i.e.* how does the θεωρία in nature *function*? 3. How does nature come to possess this kind of contemplation? 4. How is it to be understood that nature produces on account of another contemplation which it does not possess? Wildberg shows how Plotinus develops these issues in the rest of the treatise.

Russi describes the natural philosophies of Plotinus and Proclus within the broader framework of their theories of causality. She stresses the divergences between the two philosophers and argues against the suggestion that Neoplatonism is a homogeneous strain of thought that progressed from Plotinus to Proclus as if from the implicit to the explicit. Plotinus' special causal 'dualism' consists in a progressive separation of the external activities of the same immaterial cause. Furthermore, Plotinus does not conceive of production as a consequence of causal perfection; he also stresses the phenomenal (and non-ontological) nature of sensible objects. Proclus diverges from Plotinus in all of these points: he conceives of all that comes into being as resulting from the combination of an active, or perfect, and a receptive, or imperfect, potency; he understands production as a sign of power; he regards nature as a hypostatic level provided with an essence of its own. While Plotinus radically criticizes hylomorphism, Proclus' conception of causality can be regarded as an adaptation of hylomorphic principles within the Platonic framework of derivationist metaphysics.

Alessandro Linguiti examines the issue of nature and fate in Neoplatonism. Proclus' short treatise *De Providentia Et Fato* is the main focus of his discussion, which provides an in-depth analysis of some key concepts developed in this work (in particular, the relation between nature, fate, providence and necessity). Such an investigation aims to outline some general features of the Neoplatonic conception of the physical world. As Linguiti shows in detail, the Neoplatonic 'natural' order is not an independent order, separate from transcendent divine causes; rather, bodies and their qualities must be regarded as the corporeal appearance of divine causes. Accordingly, Proclus posits not two or more distinct orders, but only one order, capable of assuming different shapes, according to different ontic levels. Proclus' *De Providentia* is deeply influenced by Peripatetic concepts, here made to fit a different

philosophical framework. The existing parallels between the Aristotelian conception of nature and providence and that of the Peripatetics (particularly Alexander of Aphrodisias) proves highly revealing.

As noted above, Plato's *Timaeus* and Aristotle's *Physics* were the main 'sources' for Neoplatonic natural philosophy. Jan Opsomer presents a detailed investigation on the interaction of Aristotelian and Platonic elements in Proclus' theory of motion. His treatment includes detailed discussions of specific passages from Proclus' *Elementatio Physica* (one of the most neglected works in the Proclean *corpus*), as well as from Proclus' commentaries on Euclides and on Plato's *Timaeus*. Opsomer shows that Proclus combines Plato's and Aristotle's arguments in favour of a first cause of motion, adopts the Platonic notion of spiritual motion, and accepts Aristotle's kinematics as an analysis of the conditions of physical motion. The theory of causality emerges again as the focal point of Proclus' natural philosophy. Proclus remains faithful to the Neoplatonic axiom that all true causes are incorporeal, and that material causes are merely auxiliary. Accordingly, his investigation into physical motion leads straight to the spiritual realm. This philosophical project, however, is not devoid of difficulties: Opsomer outlines the problems resulting from Proclus' combination of Plato's and Aristotle's arguments for a first cause of motion; furthermore, he focuses on the problems associated with the concept of spiritual motion, especially those due to the application to spiritual motion of notions such as continuity and divisibility.

Proclus' views on matter and necessity are the focus of Gerd Van Riel's article. Van Riel aims to elucidate how Proclus envisages the interaction between order-giving divinity and the substrate of its operation. An extremely complex picture emerges: for Proclus' reading of Plato's *Timaeus* involves the distinction of several levels of 'substrate' and 'necessity'. It is only by unravelling these many stages of necessity and substrates that Proclus' hierarchical world-view (particularly at its lowest stages) can adequately be elucidated. Van Riel argues that Proclus' hermeneutics of the *Timaeus* require the introduction of elements borrowed from other dialogues, without which the hierarchical structure of the material substrates could not fully be developed. The most important additions are the μέγιστα γένη from the *Sophist*, the couple πέρας and ἄπειρον from the *Philebus*, the criticism of Parmenidian monism from the *Sophist* and, above all, the hypotheses outlined in the *Parmenides*. This, however, should not lead to the conclusion that Proclus' views on the different stages of the material substrate are a literal deduction from what can be found in the *Parmenides* or elsewhere.

As noted above, ‘exegesis’ is a complex notion, one that cannot simply be equated with the idea that Neoplatonists developed their philosophy from the reading of their authorities: what we read in Proclus presupposes a systematised rendering of Platonic doctrine, on the basis of scattered remarks attested in the dialogues.

The last paper of this collection is devoted to Proclus’ ‘theology of earth’. Carlos Steel shows that Proclus stands in a long Greek tradition of veneration for the earth, whom he calls with the Athenian name of *κουροτρόφος*. Accordingly, Proclus develops a fully articulated doctrine about the earth; he explains its physical status and function within the cosmos and stresses its theological significance. Steel outlines the various aspects of Proclus’ theology of the earth: as a being, the earth is a wonderful divine living creature; Proclus describes the earth’s motion, its role as a guardian and maker of night and day, the symphony between earth and heaven, etc. Again, Plato is the main source for Proclus: Steel focuses on Proclus’ reception of the hymnic description of the terrestrial globe in *Tim.* 40 bc. The interaction between physics and theology in Proclus, however, also raises a number of problems. Proclus argues that the earth as centre of the cosmos should not be confused with the element earth, yet it is not easy to avoid confusion between the two meanings of ‘earth’, and Proclus himself often shifts from one meaning to the other.

III

Two general questions have been addressed in the first part of this introduction: firstly, whether Neoplatonic authors ever developed a coherent overall conception of physical reality; secondly, whether this general conception was (at least in principle) capable of providing rational explanations of natural phenomena in all their complexity. The papers collected in this volume tackle such questions from various angles and perspectives. The first question posed should probably be given a positive answer. This need not imply, however, that all Neoplatonists, over more than three centuries, argued in favour of a unique and fully coherent general conception of nature: a similar conclusion would certainly be wrong and is easily disprovable. On the one hand, no single ‘Neoplatonic’ conception of nature exists: as the papers of this volume illustrate, significant differences can be found between the various Neoplatonic natural philosophies (most notably, between those

of Plotinus and Proclus). Indeed, conceptual variety is one of the most interesting features of Neoplatonism, and one that ought not be ignored. On the other hand, each variant of Neoplatonic natural philosophy entails certain difficulties, philosophical problems and structural tensions. Again, this should not be regarded as a marker of conceptual weakness: on the contrary, such difficulties are of intrinsic philosophical interest and should not be downplayed in order to outline an artificially unified picture of late-antique thought.

Aside from the many divergences, remarkably constant features can also be found within late-antique natural philosophy (or philosophies). It is these recurring features that make any general talk of 'Neoplatonic physics' possible. While different Neoplatonic authors present different approaches to nature, these variations always take place within a single conceptual framework, a framework significantly different from that of the previous Greek philosophical tradition. Unsurprisingly enough, the most striking aspect of late-antique natural philosophy lies in its metaphysical character: physics is but a part of metaphysics; the understanding of nature is part of the overall Neoplatonic understanding of the causal principles of reality. Cosmology, the theory of fate and providence, that of motion, and that of science and knowledge are all fully integrated within an ontological and metaphysical framework. No doubt, this was not an entirely new operation; what *was* new, was the extent to which this approach was adopted. As noted above, the philosophy of the 2nd century CE was deeply reflective of its Hellenistic heritage, with cosmology and epistemology still preserving some independence from metaphysics. The situation underwent rapid change in the 3rd century, when philosophy became metaphysically centred. From a certain perspective, the traditional assessment of late-antique thought is perfectly valid: Neoplatonism *is* a metaphysical tradition. However, a crucial remark should be added: metaphysics did not suppress other philosophical branches; rather, the other branches of philosophy were integrated within a dominant metaphysical framework, which acted as a unifying principle and as a tool for the understanding of physics, ethics, psychology, etc. Accordingly, it would not be wrong to speak of a Neoplatonic 'metaphysics of nature', 'metaphysics of fate and providence', or 'metaphysics of science and knowledge'. Within this general approach, each Neoplatonic philosopher developed his own conceptions, which may vary considerably from those of other Neoplatonists (accordingly, Plotinus' metaphysics of nature is significantly different from that of Proclus, etc.). The Neoplatonic understanding of nature

takes place within this overall conceptual background; in turn, this bestows unity (but not necessarily identity) upon the different natural philosophies of late Antiquity.

The second question posed regards the extent to which this overall understanding of nature is capable of providing rational explanations of natural phenomena. The answer to this question is extremely difficult. It would clearly be a misconception to examine ancient philosophies of nature as antecedents of modern scientific methods and discoveries. Rather, Neoplatonic natural philosophy should be understood in its own terms, against the background of ancient physical theories. Even with this proviso in mind, however, it is difficult to avoid the conclusion that Neoplatonists were much more at ease with generalities than with the detailed analysis of phenomena. The reception of Galen's work among Neoplatonic philosophers is particularly instructive from this point of view: while Galen conceives of philosophy (and especially logic) as a tool for the understanding of nature, later Neoplatonists directly derive their understanding of nature from their overall philosophical and metaphysical principles. The order of priorities, in this case, is simply reversed; besides, the Neoplatonic axiom according to which true causes are immaterial and intelligible could easily lead to a radical (and somewhat generic and disappointing) redefinition of natural phenomena on the basis of an all-encompassing metaphysical picture of physical reality. It would not be unreasonable to claim that Neoplatonists were simply not interested in providing rational explanations for natural phenomena as such: what interested these philosophers was rather the tracing of natural phenomena back to their metaphysical causes. While this is hardly a controversial assertion, it is worth stressing once more that one should be weary of underestimating the conceptual effort of Neoplatonists to explain how immaterial and intelligible causes act in physical processes (a useful illustration of this effort is provided by the remarkable discussions of natural motion).

To sum up, the reaction against the traditional dismissive interpretation of Neoplatonism, and especially of Neoplatonic natural philosophy, should not result in an uncritical praise of it. The papers collected in this volume follow a different line, based on the historical and philosophical investigation of texts, in order to paint an adequate picture of one of the most significant components of the ancient philosophical tradition.

The conference ‘Physics and Philosophy of Nature in Greek Neoplatonism’ (Il Ciocco, Castelveccchio Pascoli, June 22–24, 2006) was generously funded by the European Science Foundation of Strasbourg and co-sponsored by the University of Milan. The list of participants included Peter Adamson, Gwenaëlle Aubry, Mauro Bonazzi, Luc Brisson, Riccardo Chiaradonna, Ladislav Chvatal, Frans A. J. de Haas, Pieter D’Hoine, Giovanna R. Giardina, Pantélis Golitsis, Elena Gritti, Christoph Helmig, George Karamanolis, Filip Karfik, Inna Kupreeva, Alessandro Linguiti, Marije Martijn, Pascal Mueller-Jourdan, Dominic J. O’Meara, Jan Opsomer, Ilie Parvu (ESF representative), Marwan Rashed, Chiara Russi, Richard Sorabji, Carlos Steel, Christian Tornau, Franco Trabattoni, Robbert M. van den Berg, Gerd Van Riel, Cristina Viano, Christian Wildberg. Our thoughts in particular go out to Dr. Vincenza Celluprica (C.N.R. Rome), who encouraged and supported this project enthusiastically from the beginning right until the time of her death in September 2005.

CONTRE LE MOUVEMENT RECTILIGNE NATUREL :
TROIS ADVERSAIRES (XÉNARQUE, PTOLÉMÉE, PLOTIN)
POUR UNE THÈSE

Marwan Rashed

D'après un passage fameux du commentaire au *De Caelo* de Simplicius, «Ptolémée, Xénarque, Plotin» se seraient opposés à la thèse cosmologique d'Aristote selon laquelle les quatre éléments sublunaires ont, par nature, un mouvement rectiligne.¹ En leur état naturel, auraient soutenu ces trois auteurs, certains des corps simples sont au repos, tandis que d'autres se meuvent circulairement. Comment ne pas être tenté, sur la foi de ce passage, d'écrire l'histoire de la cosmologie comme celle d'un renoncement à une erreur d'Aristote et d'un progrès vers le vrai ? Et la tentation, pour des historiens de la philosophie, était d'autant plus forte que le texte de Simplicius montrait comment un mathématicien, Ptolémée, ne faisait au fond que s'insérer dans une tradition ouverte par un philosophe, Xénarque, et achevée par un autre philosophe, Plotin. Écrire ainsi l'histoire de la philosophie et des sciences, c'est cependant confondre les points de départ et d'arrivée : croire qu'il suffit d'être en mesure d'énoncer la thèse d'un auteur pour avoir reconstitué sa doctrine.² Le but du présent article, d'un point de vue méthodologique, sera au contraire d'insister sur le fait, au demeurant bien connu, que les thèses d'un auteur ne valent qu'en rapport avec d'autres thèses—de cet auteur et d'autres auteurs—, en tant donc qu'elles découlent de positions beaucoup plus générales que le problème considéré. Aussi m'attacherai-je ici à reconstituer, plus particulièrement, derrière leur unité de façade, trois entreprises cosmologiques distinctes.

¹ Cf. Simp., *In Cael.* 20.11–12 et 20.21. Voir *infra*, Test. 1, p. 25. Sur ce texte, voir désormais Rescigno (2004) 193–200.

² Pour une mise sur le même plan des trois protagonistes, voir par exemple Sambursky (1962) 130. Pour une affirmation de la dépendance de Plotin et de Ptolémée à l'égard de Xénarque, voir récemment Falcon (2001) 157, n. 63. Comme on le verra *infra*, p. 35, je crois que Falcon se méprend sur le sens des arguments cosmologiques de Plotin.

I. *Xénarque*

Je me permettrai d'être bref sur Xénarque, celui-ci ayant fait l'objet d'une monographie fouillée de la part d'Andrea Falcon.³ Pour défaire la liaison entre le mouvement circulaire et un corps qui soit différent des quatre éléments, Xénarque, dans ses *Apories à l'encontre de la cinquième substance*, devait montrer deux choses : que le feu (seul ou avec l'air) se meut circulairement en son lieu propre, qu'on peut donc se passer de l'hypothèse de la cinquième substance pour expliquer le mouvement circulaire du Ciel. Ce mouvement stratégique était corroboré par un résultat auxiliaire, qu'aucun *élément* (c'est-à-dire aucun élément ontologiquement achevé) ne se meut rectilinéairement. Il y avait donc de fortes présomptions pour interpréter le mouvement circulaire du feu comme son *seul* état propre. Le mouvement rectiligne n'appartient à l'élément qu'en tant qu'il est en train de rejoindre son lieu et son état propres, c'est-à-dire sa nature ontologiquement achevée. Xénarque ne pouvant évidemment pas affirmer que tous les éléments, en leur lieu propre, se meuvent d'un mouvement circulaire, il en était réduit à la thèse la plus unifiante possible après celle-là, soit : les éléments, en leur lieu propre, sont soit immobiles, soit mus d'un mouvement circulaire. Le dernier pas de cette démarche régressive consistait sans doute à fonder cette thèse sur les apparences. Le cas de la Terre était facile, et presque autant celui de l'Eau. On pouvait également affirmer que l'Air en lequel nous vivons n'est mû par aucun vent vertical. En revanche, certains mouvements météorologiques pouvaient se laisser interpréter en rapport avec un mouvement circulaire supposé.⁴ Aussi la description générale du cosmos paraissait-elle, à un premier niveau tout au moins, grandement simplifiée et facilitée par les amendements de Xénarque.

Même si l'on ne peut que spéculer sur les buts de Xénarque, des indices laissent supposer qu'il s'agissait surtout d'une réflexion de type exégétique, c'est-à-dire visant à aménager le système aristotélicien le mieux possible.⁵ Le corpus aristotélicien présente en effet quelques équivoques sur la série de problèmes qu'abordait Xénarque. Tout d'abord, on pouvait trouver chez Aristote des textes confirmant la thèse que les mouvements rectilignes n'étaient que l'expression d'un état de transit

³ Cf. Falcon (2001).

⁴ Cf. *infra*, n. 7.

⁵ J'explique ainsi la caractérisation antique de l'auteur comme «péripatéticien» de manière beaucoup plus simple, voire naïve, que Falcon (2001) 169.

des corps premiers et non de leur situation «achevée».⁶ Ensuite, comme Simplicius le remarque lui-même, certains textes d'Aristote prêtent effectivement aux zones supérieures du sublunaire un mouvement circulaire.⁷ Enfin, les hésitations sur le statut et le mouvement des êtres supralunaires étaient lancinantes.⁸ Ces trois zones de tension expliquent que l'on pouvait, tout en demeurant aristotélicien, se déclarer en faveur de thèses qui ne furent perçues comme franchement hétérodoxes qu'après la restauration opérée par Alexandre d'Aphrodise. Car, à bien la considérer, l'entreprise de Xénarque s'apparente à une unification physique de la cosmologie aristotélicienne. On exclut toutes les entités dont l'existence n'est pas vérifiée expérimentalement et l'on cherche à réduire le nombre de principes au plus strict nécessaire. Cette cohérence accrue se payait par un flottement quant à l'éternité du ciel—puisque l'hypothèse de l'éther ne rendait pas seulement compte de la circularité de son mouvement, mais également de son éternité—, encore que nous ne sachions rien de positif sur ce point.

II. Ptolémée

À la différence de Xénarque, Ptolémée semble soutenir, dans l'*Almageste*, une véritable différence de nature entre le ciel et le sublunaire. Les sources sont maigres. En l'absence des traités rédigés par Ptolémée sur ce thème, nous en sommes réduits à quelques remarques de l'*Almageste* et des *Hypothèses*, complétées par quelques allusions néoplatoniciennes au livre *Sur les inclinations* (Περὶ ῥοπῶν). La nature des témoignages conservés, en raison du contexte liminaire ou philosophique de leur transmission, est excessivement générale. Il s'agit de réflexions qui ne déparent pas dans le cadre de la tradition aristotélicienne, où l'on s'interroge avant tout sur la signification cosmologique du poids.

⁶ Voir par exemple *Phys.* IV.1 208 b 8–12 et 5 212 b 33–213 a 11, passages dont la combinaison semble présupposer une «réalisation» du corps en son lieu propre. Falcon (2001) 153–155, montre bien la différence, sur la question, entre Xénarque d'un côté, Simplicius et Alexandre de l'autre. Alors que Xénarque tend à considérer les corps simples en chemin vers leur lieu naturel comme n'ayant pas encore la nature de l'élément correspondant, Simplicius et Alexandre y voient des éléments à part entière, qui n'ont cependant pas encore atteint leur perfection cosmologique, qui inclut le fait de se trouver dans son lieu naturel.

⁷ Simp., *In Cael.* 20.25–31, qui cite l'actuel chap. I.7 des *Météorologiques*.

⁸ On en trouvera un bon aperçu dans la *Métaphysique* de Théophraste.

a) *La thèse de Michael Wolff*

Michael Wolff a consacré quelques pages à la statique de Ptolémée, dans le cadre de son bel article sur Hipparque et la théorie stoïcienne du mouvement.⁹ En s'appuyant exclusivement sur le premier livre de l'*Almageste*, Wolff a cru pouvoir rapprocher la théorie ptoléméenne du mouvement des corps simples de celle des Stoïciens. Cela ferait de la position de Ptolémée, sur ce plan comme sur bien d'autres, une reprise de celle d'Hipparque. Telle en effet que Wolff la reconstitue, la doctrine physique d'Hipparque serait très proche de celle des Stoïciens, à laquelle elle puiserait l'essentiel de son anti-aristotélisme. Je reviendrai sur ce problème historique difficile. Je voudrais pour l'instant me concentrer sur ce que l'on peut reconstituer de la façon dont Ptolémée concevait le mouvement des corps simples. Toutefois, pour la clarté de l'exposé, je commencerai par rappeler les traits caractéristiques, selon Wolff, de la dynamique stoïcienne. Le débat prend naissance autour du passage où Ptolémée explique l'immobilité de la Terre au centre du monde. Ptolémée rappelle tout d'abord que la Terre, par rapport à l'ensemble du Tout, peut être assimilée à un simple point (σημείου πρὸς αὐτὸ λόγον ἔχει). Ensuite, il explique comment la Terre est «dominée» (διακρατεῖσθαι) et «repoussée» (ἀντερείδεσθαι) de tous côtés (πανταχόθεν) par des forces de même intensité et de même direction (ἴσως καὶ ὁμοιοκλινῶς).¹⁰ Il n'y a en effet, en la sphère du Tout, ni haut ni bas, mais l'indifférence est totale.

Selon Wolff, cette description indique que pour Ptolémée, les éléments environnant directement la Terre exercent une pression sur elle.¹¹ Celle-ci serait donc maintenue en sa position centrale par le fait que les autres éléments tendent eux aussi vers le centre de l'univers. Et l'idée contrevient à la doctrine aristotélicienne selon laquelle les corps légers tendent vers la périphérie de l'univers.

Dès ce stade, on peut cependant se demander si les choses ne sont pas plus compliquées. Les deux verbes choisis par Ptolémée, en particulier, sont ambigus. «Dominer» ne veut pas dire grand' chose, pourrait renvoyer au simple fait que l'univers, en raison de sa masse, empêche la terre de se mouvoir dans un sens ou dans l'autre. L'idée ne serait pas que des immenses parties de l'univers, comme l'air, *tendent* vers le centre,

⁹ Cf. Wolff (1988) 497–502, en part. 499, n. 31.

¹⁰ Ptol., *Synt.* I.7 22.12 sqq.

¹¹ Wolff (1988) 498.

mais tout simplement que l'inertie et l'immobilité relative—c'est-à-dire en leur zone propre respective—de ces parties rendraient impossible toute pénétration de la Terre. À vrai dire, le verbe ἀντερείδεσθαι paraît aller en ce sens. Sa connotation n'est pas celle d'une tension ou d'une impulsion vers un lieu déterminé, mais plutôt d'une résistance aux chocs. Ptolémée ne dit pas que l'Univers appuie sur la Terre, mais plutôt qu'à toute tentative de mouvement en une direction quelconque, la Terre est repoussée par la densité dynamique du milieu. On reviendra sur ce point lorsqu'on s'interrogera sur le caractère actif du léger et passif du lourd selon Ptolémée.

Reprenons cependant le texte de Ptolémée d'un peu plus haut. On le traduira en commentant succinctement chaque section. Ptolémée commence par exprimer son peu d'intérêt à s'étendre sur la question du lieu de la Terre dans l'univers. La chose, dit-il, est évidente:¹²

§ 1.—On montrera selon les mêmes principes que précédemment pour quelle raison la terre ne saurait accomplir aucun mouvement vers les parties latérales susmentionnées ni jamais, en un mot, quitter le lieu du centre. Les mêmes choses, en effet, se produiraient que si elle se trouvait avoir une position autre que le milieu. Dès lors, à moi du moins, il me semble superflu de rechercher les causes du mouvement vers le milieu, ne serait-ce qu'en raison de l'évidence avec laquelle ressort des phénomènes eux-mêmes que la terre occupe le lieu médian de l'univers et que tous les graves sont emportés vers elle. Pour comprendre cela, le plus convenient pourrait être, puisque la terre, comme nous le disions, a été démontrée sphérique et au milieu du Tout, que dans toutes ses parties, les inclinations et les mouvements des corps ayant du poids—je veux dire ceux qui leur sont propres—ont lieu toujours et partout à angle droit par rapport au plan droit passant par le point de contact de la chute. Il ressort en effet manifestement de là que, s'ils n'étaient pas répercutés par la surface de la terre, ils gagneraient obligatoirement le centre même, puisque la droite allant jusqu'au centre est toujours perpendiculaire au plan tangent à la sphère à l'endroit de la section du contact.

Le raisonnement paraît le suivant: la Terre est un grave et elle est sphérique; or nous savons que tout grave, lorsqu'il tombe, suit une direction perpendiculaire au plan tangent, sur la sphère de la Terre, au point de sa chute. C'est donc, par construction, que ce grave se dirige vers le centre. Suit le passage que nous venons d'évoquer:¹³

¹² *Synt.* I.7 21.9–22.11.

¹³ *Synt.* I.7 22.12–23.3.

§ 2—Mais tous ceux qui pensent qu'il est paradoxal que le poids si grand de la terre n'aille ni ne soit transporté nulle part, ils me semblent se tromper en effectuant une comparaison du point de vue de ce qui leur arrive à eux et non de ce qui est propre à l'univers. Je ne pense pas en effet qu'un tel fait continuerait de leur paraître merveilleux, s'ils prêtaient attention au fait que la taille de la terre, comparée à l'ensemble du corps englobant, est dans le rapport d'un point à ce dernier. On croira ainsi possible que ce qui est proportionnellement très petit soit maîtrisé par ce qui est excessivement grand et homéomère et qu'il soit repoussé de tout côté de manière égale et avec une inclination semblable, puisque il ne saurait y avoir de bas ou de haut dans l'univers par rapport à elle, pas davantage qu'on n'assignerait de telles déterminations à une sphère.

La suite du texte, selon nous, confirme une lecture plus «aristotélienne» que ne l'admet Wolff:¹⁴

§ 3.—Bien plutôt, les corps composés (συγκριμάτων) qui sont en lui, pour autant qu'il s'agit de leur mouvement propre et conforme à la nature qui est la leur (ὅσον ἐπὶ τῇ ἰδίᾳ καὶ κατὰ φύσιν ἑαυτῶν φορᾶ), ceux qui sont légers et aux parties subtiles se dispersent vers l'extérieur et comme vers la circonférence, mais semblent pour chacun se projeter vers le «haut» en raison du fait que pour nous tous, ce qui est au-dessus de la tête et qu'on appelle «haut» incline lui aussi comme vers la surface englobante; quant à ceux qui sont lourds et aux parties pesantes, ils sont portés vers le milieu et comme vers le centre, mais semblent tomber vers le «bas» en raison du fait que pour nous tous, derechef, ce qui est du côté des pieds et qu'on appelle «bas» incline lui aussi vers le centre de la terre et c'est inmanquablement aux alentours du milieu qu'ils se trouvent réunis, sous l'effet des chocs et des pressions égaux et semblables qu'ils exercent de tous côtés les uns sur les autres.

Ptolémée semble bien ici admettre un mouvement naturel vers la circonférence de l'univers des corps légers et un mouvement naturel vers le centre des corps pesants. Selon Wolff cependant, il ne s'agirait avec le membre de phrase ὅσον ἐπὶ τῇ ἰδίᾳ καὶ κατὰ φύσιν ἑαυτῶν φορᾶ que d'une correction de Heiberg sans appui manuscrit: «Heiberg corrected φορᾶ from φοραί and ἐπὶ τῇ ἰδίᾳ from ἐπιτήδεια (and from ἐπὶ τῇ δία or ἐπὶ τῇ ἰδία in other MSS). The manuscript tradition for 23.3–4 has ὅσον ἐπιτήδεια καὶ κατὰ φύσιν ἑαυτῶν φοραί among other variants (cf. Heiberg's apparatus) which all seem to be doubtful».¹⁵ Mais ce commentaire erroné provient certainement du fait que Wolff

¹⁴ *Synt.* I.7 23.3–16.

¹⁵ Wolff (1988) 499–501, n. 31.

n'a pas su lire l'apparat critique *négalif* de Heiberg. En réalité, la leçon choisie par Heiberg est massivement et excellemment représentée. Abstraction faite de la présence des iota souscrits ou adscrits—on sait que les manuscrits anciens byzantins ont tendance à adscrire les iota au datif sing. de la première et de la deuxième déclinaison—le groupe de mots ἐπὶ τῇ ἰδίᾳ est attesté par les deux manuscrits les plus importants, *Paris. Gr.* 2389 (ms. A, onciales, début IX^e siècle) et *Vat. Gr.* 1594 (ms. B, IX^e s.), corroborés par les *Marc. Gr.* Z. 310, (ms. E, XV^e s.) et *Paris. Gr.* 2390 (ms. F, XIII^e s.). Seule la première main du *Marc. Gr.* Z. 313 (ms. C, X^e s.) écrit ἐπὶ τῇ δίᾳ (sic), tandis que la leçon ἐπιτηδειαί/α, que Wolff affirme être ultra-majoritaire, n'apparaît en réalité que dans le *Vat. Gr.* 180 (ms. D, XII^e s.).

Mais supposons que par un hasard extraordinaire, D ait conservé, seul contre tous les autres manuscrits, la leçon authentique. En corrigeant encore une fois le texte,¹⁶ à savoir en changeant le καὶ en αἱ, on obtiendrait le texte membre suivant: ὅσον ἐπιτήδειαί αἱ κατὰ φύσιν ἑαυτῶν φοραί. L'idée serait que Ptolémée ne confère aux corps légers qu'une tendance naturelle centripète, mais leur attribue cependant aussi une tendance centrifuge «in so far as their own natural motions [towards the centre of the universe] permit it».¹⁷ La suite du texte, que Wolff ne discute pas, devient alors peu claire. Car Ptolémée oppose manifestement une tendance des corps légers à aller vers la circonférence du monde à une tendance des corps lourds à gagner le centre. C'est en raison de la pression que les corps lourds exercent les uns sur les autres dans la région du centre qu'ils se fondent les uns dans les autres en une masse compacte. Il n'est plus question, ici, de l'éventuelle pression exercée par le milieu environnant. Il faut être sensible au fait que Ptolémée a commencé par expliquer, au § 2, que le centre, infiniment petit en comparaison, est dominé par une masse homéomère. Il introduit ensuite les corps composés, qui bien entendu, par leur statut, s'opposent à l'homéomère précédemment mentionné, et en lesquels il faut voir les corps sublunaires, toujours mêlés et relativement impurs. Parmi ces corps du sublunaire, Ptolémée distingue deux catégories: les corps légers et les corps lourds, qui pour une raison ou pour une

¹⁶ Wolff s'inspire ici explicitement de la traduction allemande de Manitius et Neugebauer: «so weit es die ihnen von Natur anhaftende Neigung zum freien Fall gestattet».

¹⁷ Wolff (1988) 500, n. 31.

autre—selon la façon dont interprète le membre de phrase problématique, c'est-à-dire en fait selon qu'on donne une valeur restrictive (comme Wolff), ou non, à la conjonction ὅσον—se dirigent respectivement vers la circonférence et le centre de l'univers. La longue phrase qui constitue notre § 3 est un génitif absolu en grec. Selon qu'on introduira une ponctuation semi-forte (point en haut) ou faible (virgule, ou rien du tout), le sujet du «se trouvent réunis» (συνίζησίν τε... λαμβανόντων, l. 14) sera, respectivement, ou bien τῶν... ἐν αὐτῷ συγκριμάτων à la ligne 3, ou bien τῶν δὲ βαρέων καὶ παχυμερῶν aux lignes 9–10. C'est bien entendu à la première solution que se range Wolff «The settlement [of composite objects] in a position about the centre [of the universe] results from the action of mutual resistance and pressure which is equal and similar from all directions»), sans toutefois reconnaître la possibilité d'une autre interprétation.

La répétition du vocabulaire nous paraît donner raison, sur ce point particulier, à Wolff. Mais à bien considérer les choses, cette interprétation locale correcte implique une erreur dans l'interprétation générale qu'il propose. En effet:¹⁸

§ 4—Par conséquent, c'est tout aussi immanquablement que la masse totale de la Terre, bien qu'étant aussi immense—par rapport, s'entend, aux corps qui sont emportés vers elle—, est comprimée même par l'impulsion des corps lourds excessivement petits (ὑπὸ τῆς τῶν πάνυ ἐλαχίστων βαρῶν ὀρμῆς), du fait qu'elle ne vacille d'aucun côté et que c'est comme si elle accueillait les corps qui lui tombent ensemble dessus.

Pour faire cadrer ce passage avec sa thèse d'ensemble, Wolff est obligé de comprendre les «corps lourds excessivement petits» comme s'il s'agissait de la «centripetal tendency of light elements». Mais cette interprétation est fort improbable: Ptolémée ayant distingué quelques lignes plus haut les corps lourds des corps légers, il ne peut, sans plus de précisions, désigner les uns par le nom des autres. Cette interprétation, permet de décider de manière rétrograde du sens à donner à la dernière phrase du §3: il s'agissait bien des corps lourds qui, se dirigeant de manière équivalente (force et direction) vers le centre du monde, se choquent et se repoussent mutuellement. Il s'agit très exactement, transposé au plan de la physique proprement dite, d'une expérience de

¹⁸ *Synt.* I.7 23.16–20.

pensée qu'Aristote proposait dans le *De Caelo*.¹⁹ Chose intéressante, les commentateurs l'expliquaient dans le cadre de la statique ancienne.²⁰

On peut pour l'instant interpréter ainsi le modèle cosmologique de Ptolémée. Celui-ci travaille avec deux rapports statiques. Le premier est celui de l'élément homéomère, qui correspond à la cinquième substance aristotélécienne et qui par sa masse incommensurable « domine » et « repousse » non pas la Terre, mais le sublunaire dans son ensemble—qui lui n'est pas homéomère. Le second est celui de la Terre elle-même, qui est par soi immobile en son lieu, et que les pressions équivalentes des corps pesants, sur tous ses points, ne contribuent pas à déséquilibrer mais rendent toujours plus compacte. Ainsi, les deux situations sont différentes : alors que le sublunaire dans son ensemble est maintenu par l'homéomère supralunaire mais, sans cela, se diffuserait plus loin dans le cosmos, la Terre, livrée à elle-même, resterait là où elle est.

b) *Ptolémée, Περὶ τῶν στοιχείων et/ou Περὶ ῥοπῶν*

La tradition garde la trace de réflexions de Ptolémée sur la question du mouvement des corps sublunaires et lui attribue deux œuvres sur ce sujet, intitulées *Sur les éléments* (Περὶ στοιχείων) et *Sur les inclinations* (Περὶ ῥοπῶν). À défaut du moindre fragment, nous commencerons par citer et traduire les six témoignages conservés, qui nous paraissent aller dans le sens de la reconstitution proposée. Les cinq premiers sont déjà connus des éditeurs de Ptolémée, le sixième est nouveau.

Test. 1 (= Simp., *In Cael.* 20.10–25):

ἰστέον δέ, ὅτι καὶ Πτολεμαῖος ἐν τῷ Περὶ τῶν στοιχείων βιβλίῳ καὶ ἐν τοῖς Ὀπτικοῖς καὶ Πλωτίνος ὁ μέγας καὶ Ξέναρχος δὲ ἐν ταῖς Πρὸς τὴν πέμπτην οὐσίαν ἀπορίαις τὴν μὲν ἐπ' εὐθείας κίνησιν τῶν στοιχείων γινομένων ἔτι καὶ ἐν τῷ παρὰ φύσιν ὄντων τόπῳ, ἀλλὰ μήπω τὸν κατὰ φύσιν ἀπειληφότων εἶναί φασι. τούτῳ δὲ καὶ Ἀριστοτέλης ἔοικε συγχωρεῖν καὶ ἐν τῷ τετάρτῳ τῆσδε τῆς πραγματείας λέγων “τὸ εἰς τὸν αὐτοῦ τόπον φέρεσθαι εἰς τὸ αὐτοῦ εἶδος ἐστὶ φέρεσθαι” καὶ ἐν τῇ Περὶ γενέσεως καὶ Ἀλέξανδρος ἐν τούτοις, ὡς λεχθήσεται. τῷ γὰρ ὄντι, εἰ τῶν οἰκείων τόπων καὶ τῆς οἰκείας ὁλότητος ἐφιέμενα κινεῖται ἀπὸ τοῦ ἄλλοτρίου τόπου καὶ τῆς παρὰ φύσιν διαθέσεως, δῆλον, ὅτι οὐ κατὰ φύσιν ἔχοντα τελέως κινεῖται, ἀλλ', ὡς φασιν οἱ εἰρημνοὶ πρότερον ἄνδρες, Πτολεμαῖος, Ξέναρχος, Πλωτίνος, κατὰ φύσιν ἔχοντα καὶ ἐν τοῖς

¹⁹ Cf. Arist., *Cael.* II.14 297 a 8–12.

²⁰ Cf. Simp., *In Cael.* 543.28 sqq., qui rapproche de ce texte la statique d'Archimède.

οἰκείοις τόποις ὄντα τὰ στοιχεῖα ἢ μένει ἢ κύκλῳ κινεῖται· μένει μὲν ἡ γῆ δηλονότι καὶ τὸ ὕδωρ καὶ τοῦ ἀέρος τὸ λιμνάζον, κύκλῳ δὲ κινεῖται τό τε πῦρ καὶ τοῦ ἀέρος τὸ εὐαγὲς τῷ οὐρανῷ συμπεριπολοῦντα κατὰ τὴν πρὸς αὐτὸν οἰκειότητα.

Mais il faut savoir que Ptolémée, dans le livre *Sur les éléments* et dans l'*Optique*, ainsi que le grand Plotin, mais aussi Xénarque dans les *Apories contre la cinquième substance*, disent que le mouvement en ligne droite appartient aux éléments qui sont encore à l'état naissant et qui sont dans un lieu contraire à leur nature mais qui n'ont pas encore gagné leur lieu naturel. Même Aristote semble souscrire à cette opinion, à la fois dans le quatrième livre de ce traité—où il dit «être mû vers son lieu, c'est être mû vers sa forme»—et dans le traité *Sur la génération*, et Alexandre en ces passages, comme on le dira. De fait, en réalité, si les corps qui désirent leurs lieux propres et leur tout propre se meuvent à partir d'un lieu étranger et d'une disposition contraire à la nature, il est manifeste que ce ne sont pas des corps qui sont complètement en accord avec la nature qui se meuvent; bien plutôt, comme le disent les hommes susmentionnés, Ptolémée, Xénarque, Plotin, quand les éléments sont en accord avec leur nature et dans leur lieu propre, soit ils demeurent soit ils se meuvent en cercle: demeurent la terre, évidemment, l'eau et la partie stagnante de l'air, tandis que se meuvent en cercle le feu et la partie mobile de l'air, qui tournent ensemble avec le ciel en raison de leur affinité avec lui.

Test. 2 (= Procl., *In Tim.* IV 3.114.24–115.2):

ἔοικεν οὖν ἐκεῖ μὲν εἶναι τὸ ὄντως πῦρ ἐν τῷ ἀκροτάτῳ τόπῳ, καὶ διὰ τοῦτο καὶ τὰ ἄστρα εἶναι πύρια ὡς τὸν τόπον εἰληχότα τοῦ πυρός, γῆς δὲ ἐκεῖ τὸ ἀκρότατον εἶναι, γῆ δὲ ἀνάπαλιν ἐνταῦθα μὲν εἶναι ἡ ὅλη, πυρὸς δὲ τοῦ ἐσχάτου μετέχειν, ὡς ἦν δυνατόν γῆν οὔσαν, τοῦ γηινωτάτου καὶ παχυτάτου, καθάπερ καὶ τὸ ἐκεῖ πῦρ γῆν εἶχε τὴν ἀκρότητα τῆς γῆς, κρατοῦντος καὶ ἐκείνου τοῦ λόγου πάντως, ὃν Πτολεμαῖος καὶ Πλωτῖνος ἐξέφεησαν, πᾶν σῶμα ἐν τῷ οἰκείῳ τόπῳ ὃν ἢ μένειν ἢ κυκλοφορεῖσθαι, τὸ δὲ ἀνωφερὲς ἢ κατωφερὲς τῶν μὴ ἐν οἰκείοις ὄντων εἶναι τόποις τὸν οἰκεῖον καταλαβεῖν ἐπιμένον.

Il semble donc qu'il y a là-bas le feu véritable, dans le lieu le plus raffiné, que pour cette raison, les astres aussi sont ignés, puisqu'ils ont obtenu en partage le lieu du feu, et qu'il y a là-bas la partie la plus raffinée de la terre; à rebours, qu'ici-bas il y a la terre comme tout, mais qu'elle participe du feu le plus humble (pour autant qu'il lui est possible à elle qui est terre), celui qui est le plus terreux et le plus épais, de même que le feu là-bas comprenait la part la plus raffinée de la terre—puisque cet argument s'impose totalement, que Ptolémée et Plotin ont exprimé, à savoir que tout corps, lorsqu'il est en son lieu propre, soit est immobile soit se meut en cercle, tandis que le fait de se porter vers le haut ou de se porter vers le bas appartient aux corps qui, sans être dans leur lieu propre, désirent atteindre leur lieu propre.

Test. 3 (= Simp., *In Cael.* 710.14–711.25):

Πτολεμαῖος δὲ ὁ μαθηματικὸς ἐν τῷ Περὶ ῥοπῶν τὴν ἐναντίαν ἔχων τῷ Ἀριστοτέλει δόξαν πειρᾶται κατασκευάζειν καὶ αὐτός, ὅτι ἐν τῇ ἑαυτῶν χώρᾳ οὔτε τὸ ὕδωρ οὔτε ὁ ἀήρ ἔχει βάρος. καὶ ὅτι μὲν τὸ ὕδωρ οὐκ ἔχει, δείκνυσιν ἐκ τοῦ τοὺς καταδύοντας μὴ αἰσθάνεσθαι βάρους τοῦ ἐπικειμένου ὕδατος, καίτοι τινὰς εἰς πολὺ καταδύοντας βάθος. δυνατὸν δὲ πρὸς τοῦτο λέγειν, ὅτι ἡ συνέχεια τοῦ ὕδατος τοῦ τε ἐπικειμένου τῷ καταδύοντι καὶ τοῦ ὑποκειμένου καὶ τοῦ παρ' ἐκάτερα στηρίζοντος ἑαυτὸ ποιεῖ μὴ αἰσθάνεσθαι βάρους, ὥς τὰ ἐν ταῖς ὁπαῖς τῶν τοίχων, κἂν πανταχόθεν ἐφάπτανται τοῦ τοίχου, ζῶα οὐ βαρεῖται ὑπ' αὐτοῦ διὰ τὸ πανταχόθεν τὸν τοίχον ἑαυτὸν στηρίζειν· ὥς, εἰ γε διηρημένον ἐπέκειτο τὸ ὕδωρ, εἰκὸς ἦν βάρους αἰσθάνεσθαι ἀπ' αὐτοῦ. τὸ δὲ τὸν ἀέρα ἐν τῇ ὁλότητι τῇ ἑαυτοῦ μὴ ἔχειν βάρος καὶ ὁ Πτολεμαῖος ἐκ τοῦ αὐτοῦ τεκμηρίου τοῦ κατὰ τὸν ἀσκὸν δείκνυσιν οὐ μόνον πρὸς τὸ βαρύτερον εἶναι τὸν πεφυσημένον ἀσκὸν τοῦ ἀφυσήτου, ὅπερ ἐδόκει τῷ Ἀριστοτέλει, ἀντιλέγων, ἀλλὰ καὶ κουφότερον αὐτὸν γίνεσθαι φυσηθέντα βουλόμενος. ἐγὼ δὲ πειραθεὶς μετὰ τῆς δυνατῆς ἀκριβείας τὸν αὐτὸν ἥδρον σταθμὸν ἀφυσήτου τε ὄντος καὶ φυσηθέντος τοῦ ἀσκοῦ· τῶν δὲ πρὸ ἐμοῦ τις καὶ αὐτὸς πειραθεὶς τὸν αὐτὸν εὐρηκέναι σταθμὸν ἔγραψε, μᾶλλον δὲ πρὶν φυσηθῆναι βαρύτερον ὄντα ἐλαχίστῳ τινί, ὅπερ τῷ Πτολεμαίῳ συμφθέγγεται. καὶ δηλόν, ὅτι, εἰ μὲν, ὥς ἐπειράθην ἐγώ, τὸ ἀληθὲς ἔχει, ἀρρεπὴ ἂν ἐν τοῖς οἰκείοις τόποις εἴη τὰ στοιχεῖα μήτε βάρος ἔχοντα μηδὲν αὐτῶν μήτε κουφότητα, ὅπερ ἐπὶ τοῦ ὕδατος ὁ Πτολεμαῖος ὁμολογεῖ. καὶ ἔχοι ἂν τινα λόγον τοῦτο· εἰ γὰρ ἡ φυσικὴ ῥοπὴ ἔφεσίς ἐστι τοῦ οἰκείου τύπου, τὰ τυχόντα αὐτοῦ οὐκέτι ἂν ἐφίοιτο οὐδὲ ῥέποι ἂν πρὸς αὐτὸν ἐν αὐτῷ ὄντα, ὥσπερ οὐδὲ τὸ κεκορεσμένον ὀρέγεται τροφῆς.

Mais Ptolémée le mathématicien, dans son traité *Sur les inclinations*, ayant une opinion contraire à Aristote, tente lui aussi d'établir qu'en leur région propre, ni l'eau ni l'air n'ont de poids.

Que l'eau, en effet, n'en a pas, il le montre en alléguant que les plongeurs ne sentent pas le poids de l'eau qui est au-dessus d'eux, alors qu'ils plongent à de grandes profondeurs.—Mais à cela, on peut répliquer que la cohérence de l'eau qui est sur le plongeur et de celle qui fait pression sur elle-même de chaque côté fait qu'il ne sent pas le poids, à la façon dont les animaux dans les ouvertures des murs, même s'ils touchent le mur de tous côtés, ne ressentent pas son poids du fait que le mur, de toute part, fait pression sur soi-même.

Quant au fait que l'air, dans son tout, n'a pas de poids, Ptolémée le montre lui aussi à partir de cette même preuve de l'outre, s'opposant non seulement au fait que l'outre gonflée soit plus lourde que celle non gonflée, ce qui était l'opinion d'Aristote, mais voulant même qu'elle soit plus légère une fois gonflée.—Mais moi, ayant fait l'expérience avec la précision qui était possible, j'ai trouvé la balance identique pour l'outre non gonflée et pour l'outre gonflée. L'un de mes prédécesseurs ayant lui aussi fait l'expérience, il écrivit avoir trouvé la balance identique, voire

que l'outre ait été un tout petit peu plus lourde avant d'être gonflée, ce qui concorde avec Ptolémée. Et il est manifeste que si la vérité est comme je l'ai moi expérimentée, les éléments dans leur lieu propre pourraient bien être sans inclinations, aucun d'entre eux n'ayant ni poids ni légèreté, ce que Ptolémée reconnaît dans le cas de l'eau. Et cela pourrait avoir quelque raison. Si en effet l'inclination naturelle est un désir du lieu propre, les corps qui l'ont atteint pourraient bien ne plus le désirer ni avoir d'inclination vers lui, puisqu'ils y sont déjà, à la façon dont l'animal repu ne tend plus vers la nourriture.

Test. 4 (= Elias, *In Cat.* 185.6–10):

Μετὰ τὴν οὐσίαν περὶ ποσοῦ διαλαμβάνει ὁ Ἀριστοτέλης. ἔξ δέ τινα δεῖ ζητῆσαι ἐπὶ τῆς παρούσης κατηγορίας, πρῶτον μὲν τὴν τάξιν αὐτοῦ τὴν πρὸς τὴν οὐσίαν, δεύτερον εἰ γένος τὸ ποσὸν συνεχοῦς καὶ διωρισμένου, τρίτον εἰ τούτων ἐστὶ μόνων γένος ἢ καὶ τῆς ῥοπῆς, ὡς φησι Πλάτων καὶ Ἀρχύτας καὶ Πτολεμαῖος ὁ ἀστρονόμος.

Après la substance, Aristote traite de la quantité. Il faut s'enquérir de six points sur cette catégorie. Le premier, c'est l'ordre de ce chapitre par rapport à la substance. Le second, c'est de savoir si la quantité est le genre du continu et du discontinu, le troisième, si elle est un genre seulement de ces derniers, ou également de l'inclination, comme le disent Platon, Archytas et Ptolémée l'astronome.

Test. 5 (= Eutoc., *In libr. pr. De Planorum Aequilibriis*, in *Archimedis Opera Omnia*, ed. J. L. Heiberg, III, Leipzig 1881, 306.1–14):

Τὴν ῥοπήν, ᾧ γενναιότατε Πέτρε, κοινὸν εἶναι γένος βαρύτητος καὶ κουφότητος Ἀριστοτέλης τε λέγει καὶ Πτολεμαῖος τούτῳ ἀκολουθῶν· ὁ δέ γε παρὰ Πλάτωνι Τιμαῖος πᾶσαν ῥοπήν ἀπὸ βαρύτητος λέγει γίνεσθαι· τὴν γὰρ κουφότητα στέρησιν νομίζει. ὦν ἔξεστι τὰς δόξας τοῖς φιλομαθέσιν ἀναλέγεσθαι ἕκ τε τοῦ Περὶ ῥοπῶν βιβλίου τῷ Πτολεμαίῳ συγγεγραμμένου καὶ ἐκ τῶν Ἀριστοτέλους φυσικῶν πραγματειῶν καὶ ἐκ τοῦ Πλάτωνος Τιμαίου καὶ τῶν ταῦτα ὑπομνηματισάντων. ὁ δὲ Ἀρχιμήδης ἐν τούτῳ τῷ βιβλίῳ κέντρον ῥοπῆς ἐπιπέδου σχήματος νομίζει, ἀφ' οὗ ἀρτῶμενον παράλληλον μένει τῷ ὀρίζοντι, δύο δὲ ἢ πλειόνων ἐπιπέδων κέντρον ῥοπῆς ἦτοι βάρους, ἀφ' οὗ ἀρτῶμενος ὁ ζυγὸς παράλληλός ἐστι τῷ ὀρίζοντι.

Aristote et Ptolémée à sa suite, ô très noble Pierre, disent que l'inclination est le genre commun de la pesanteur et de la légèreté. Mais Timée, chez Platon, dit que toute inclination a lieu sous l'effet de la pesanteur. Il pense en effet que la légèreté est une privation. Il est loisible à ceux épris de science de lire leurs doctrines à partir du livre *Sur les inclinations* rédigé par Ptolémée et des traités physiques d'Aristote, ainsi qu'à partir du *Timée* de Platon et de ceux qui ont commenté ces choses. Mais Archimède, dans ce livre, pense que le centre de l'inclination d'une figure plane est le point

tel que quand on l'y suspend, elle demeure parallèle à l'horizon, tandis que le centre d'inclination ou de poids de deux ou plusieurs plans est le point tel que quand on l'y suspend, le joug est parallèle à l'horizon.

Test. 6 (= Anon., *In Cael.*, *Laur.* 87.20, fol. 209v):²¹

ὁ μὲν Ἀριστοτέλης τὰς τῶν στοιχείων ὁλότητας ῥοπὰς ἔχειν βούλεται, ὁ δὲ γε Πτολεμαῖος οὐ βούλεται αὐτὰς ἔχειν ῥοπὰς, καὶ ἄμφω οἱ ἄνδρες καλῶς· ὁ μὲν γὰρ Ἀριστοτέλης κατὰ ἕξιν, ὁ δὲ γε Πτολεμαῖος κατὰ προχείρισιν φαίνονται λέγοντες· ὁ γὰρ Πτολεμαῖος φαίη ἂν ὅτι ὥσπερ κινήσεως αἰτία ἡ φύσις, οὕτως καὶ στάσεως, ὁ δὲ Ἀριστοτέλης ἀποσπασθὲν ὁτιοῦν μόριον τῆς οἰκείας ὁλότητος προβάλλει τὴν ῥοπὴν ἀχρόνως.

Aristote veut que les tous des éléments aient des inclinations, Ptolémée ne veut pas qu'ils aient des inclinations, et tous deux à bon droit. Car Aristote prend manifestement en compte l'habitus et Ptolémée l'actualisation. Ptolémée, de fait, pourrait bien dire que de même que la nature est cause de mouvement, ainsi l'est-elle de repos, tandis qu'Aristote dirait que toute partie séparée du tout qui lui est propre donne instantanément libre cours à son inclination.

Une première constatation s'impose: le sujet des deux œuvres est identique. Le titre *Sur les inclinations* apparaissant non seulement chez Simplicius (Test. 3) mais aussi chez Eutocius (Test. 5), il est probable qu'il est authentique. Il paraît en outre intrinsèquement plus adapté que le titre *Sur les éléments*, qui étonne chez un mathématicien et qui n'apparaît qu'à une occasion, précisément au moment où Simplicius mentionne Plotin et Xénarque (Test. 1). On ne saurait donc exclure qu'il s'agisse du même traité, que Simplicius aurait tout d'abord désigné de manière un peu vague. Peut-être également faut-il combiner les deux appellations et reconstituer quelque chose comme *Περὶ ῥοπῶν τῶν στοιχείων*. Cette question philologique, néanmoins, est sans incidence doctrinale.

La thèse prôtée par Simplicius au traité *Sur les éléments* (Test. 1) est claire: le mouvement rectiligne n'est pas un mouvement naturel, mais un processus par lequel un élément gagne, à partir d'un lieu qui ne lui est pas naturel, son lieu naturel. En son lieu naturel, l'élément soit demeure immobile, soit se meut en cercle. C'est exactement la doctrine que Proclus (Test. 2) attribue à Ptolémée. Il s'agit donc d'une interprétation néoplatonicienne classique de la dynamique ptoléméenne.²²

²¹ Cf. Rashed (2007b) 250–251.

²² Ptolémée aurait soutenu cette thèse également dans l'*Optique*. On n'en trouve pas trace dans la version arabo-latine conservée (cf. Lejeune [1956]), mais celle-ci

Cette thèse apparaissait également sans doute, si c'est une œuvre distincte, dans le traité *Sur les inclinations* : Ptolémée y montrait expérimentalement que ni l'air ni l'eau, en leur lieu propre, n'ont de poids. C'est l'objet du témoignage 3. Celui-ci étant le plus substantiel et le plus complexe de tous ceux qui nous ont été préservés, il faut le discuter en détail.

Simplicius présente la doctrine de Ptolémée dans une opposition à celle d'Aristote. Une première question est de savoir si l'on doit cette antithèse à Ptolémée lui-même ou à Simplicius. Ce dernier affirme que Ptolémée s'est opposé à une thèse d'Aristote voulant que l'air ait du poids. L'argument n'a de sens qu'en rapport avec une phrase précise du *De Caelo*, où Aristote, pour une raison à vrai dire assez obscure, avait affirmé que l'outre pleine « tirait davantage » (ἐλκει πλεῖον), c'est-à-dire, selon Simplicius tout du moins, *pesait plus lourd*, que l'outre vide.²³ En refaisant l'expérience, c'est-à-dire en pesant la même outre vide puis gonflée, Ptolémée aurait ainsi constaté, contre Aristote, que l'outre gonflée a moins de poids ou, indifféremment ici, est plus légère, que l'outre non gonflée. D'où la conclusion de Ptolémée, que l'air en sa région propre n'a pas de poids.²⁴ Ayant précédemment prouvé que l'eau n'a pas de poids en sa région propre à partir du fait qu'elle n'écrase pas les plongeurs au fond de la mer, Ptolémée concluait que ni l'eau ni l'air, en leur région propre, n'ont de poids.

Simplicius relève à juste titre — au vu de son exposé — l'apparent porte-à-faux de Ptolémée, qui démontre l'*immobilité* de l'eau en son lieu propre mais le *mouvement* vers le haut de l'air en le sien.²⁵ Il faudrait, pour des raisons de symétrie, soit que l'air fût immobile comme l'eau, soit que l'eau fût mue comme l'air. La contradiction ne me paraît cependant

commençant avec le deuxième livre, cela n'a rien d'étonnant. Il est en effet probable que la discussion physique appartenait au premier livre, peut-être à l'occasion d'une distinction entre le mouvement des corps élémentaires et celui de la lumière.

²³ Le passage est difficile. Cf. Moraux (1967) CLIII.

²⁴ Explicité, l'argument serait le suivant : si plus d'air (= l'outre gonflée), dans la zone de l'air, est plus léger que moins d'air (= l'outre vide), alors l'air n'a pas de poids. Le prédécesseur anonyme cité dans le même contexte par Simplicius est inconnu. Thémistius s'opposait certes sur ce point à Aristote mais, à la différence de l'anonyme, n'indiquait pas avoir mené une expérience et ne suggérait pas que l'outre gonflée pût même être un peu plus légère que l'outre vide. Voir la traduction latine de la paraphrase conservée seulement dans la version hébraïque faite sur l'arabe dans Landauer (1902) 233.7–10. Cf. Ibn Rushd, *Talkhīṣ al-Samā' wa al-'ālam*, 367 Alaoui.

²⁵ Cf. Simp., *In Cael.* 711.4–15.

pas insurmontable et je m'étonne que Simplicius n'y ait pas songé. Bien que cela ne soit pas dit dans le texte, il nous faudrait distinguer, dans l'argument de Ptolémée, entre l'air proche du sol—lieu où s'effectue la pesée (Alexandrie)—et l'air loin du sol, en son lieu véritablement propre. Si l'outre gonflée est plus légère que l'outre vide, c'est que l'air au niveau de la pesée tend vers le haut, que donc beaucoup d'air contrebalance davantage le poids de l'outre (dont la matière est essentiellement terreuse et aqueuse) que peu d'air. En revanche, plus l'on s'approcherait du lieu *véritablement* propre de l'air et moins cette impulsion centrifuge se ferait sentir. Cette hypothèse serait parfaitement conforme à notre interprétation de l'*Almageste*. Le résultat de l'expérience de l'outre ne faisait donc sans doute que prouver, aux yeux de Ptolémée, que la zone de la pesée de l'air n'était encore que limitrophe au lieu naturel de l'air. L'on pouvait même, en principe, mesurer l'intensité de l'inclination vers le haut de l'air en mesurant la résistance opposée par un certain volume d'air à la pesanteur des ingrédients aqueux et terreux de l'outre. D'un point de vue théorique, l'expérience était bien imaginée et rend compte de l'idée, prêtée à Ptolémée (ainsi qu'à Archytas et à Platon) par le témoignage 4, que l'inclination était une *quantité*.

Il paraît donc probable que, malgré les sous-entendus de Simplicius, Ptolémée cherchait moins à contredire une phrase d'Aristote sur la lourdeur (βάρος) de l'air (phrase au demeurant contradictoire avec la doctrine classique du Philosophe si on l'interprétait comme le commentateur néoplatonicien), qu'à mettre en relief (i) la présence d'une inclination (ρόπή) de chaque corps éloigné de son lieu propre dirigée vers ce dernier (ii) l'absence d'inclination d'un corps en son lieu propre.

Deux indices supplémentaires vont en ce sens. Le premier est le titre de l'œuvre citée par Simplicius et Eutocius: Περὶ ροπῶν, qui devait renvoyer à un aspect important de l'œuvre. Le second nous est délivré par les trois derniers témoignages. Élias (Test. 4), Eutocius (Test. 5) et l'Anonyme de Florence (Test. 6) confirment l'importance de la notion d'inclination chez Ptolémée. La doctrine qu'on peut en dériver est la suivante: l'inclination est la tendance d'un corps, hors de sa zone naturelle, à la gagner. Sa direction est verticale et son orientation peut être soit du haut vers le bas (corps lourds), soit du bas vers le haut (corps légers). Un corps lourd, pour autant qu'il est en lui, soit se dirige verticalement vers le bas, soit est immobile dans la zone du bas; un corps léger, pour autant qu'il est en lui, soit se dirige verticalement vers le haut, soit est immobile dans la zone du haut. L'éventuel mouvement circulaire de

l'air et du feu supérieurs s'explique uniquement par l'entraînement du mouvement du corps éthéré.²⁶

Le nouveau texte (Test. 6) est instructif, de ce point de vue, car (i) il commente le même texte d'Aristote que celui qui a provoqué l'exkursus «ptoléméen» de Simplicius et (ii) il est plus proche, doctrinalement, d'Élias et surtout d'Eutocius que de ce dernier. Tout d'abord, l'auteur du commentaire semble soucieux d'harmoniser Ptolémée et Aristote, à la différence de Simplicius qui les oppose. En second lieu, et c'est plus important, la scholie ne fait pas mention de poids (βάρος) mais, toujours, d'inclination (ρόπή). Elle apporte ainsi un argument textuel en faveur de notre interprétation du texte classique de Simplicius. Car selon Ptolémée, affirme-t-elle, les tous des éléments n'ont pas d'inclination. C'est donc que la terre, l'eau *et l'air*, dans leur zone cosmique respective, ne sont habités par aucune impulsion naturelle en une direction déterminée.

Cela étant dit, tout n'est pas clair dans la position de Ptolémée, et il est probable que les contradictions légères des témoignages reflètent l'ambiguïté des doctrines. En particulier, on pourrait supposer que Ptolémée combinait tant bien que mal deux doctrines des éléments, l'une d'obédience aristotélicienne, concentrée sur la question des mouvements naturels verticaux, l'autre davantage sensible à leur comportement physique. Ainsi, on pouvait caractériser un corps lourd de deux manières, soit comme le corps qui, placé en haut de la zone sublunaire, tend à gagner le centre du monde, soit comme le corps peu disposé au mouvement, c'est-à-dire offrant une force de résistance élevée. En ce second sens, la terre est lourde parce qu'à volume égal, elle est plus difficile à mouvoir que l'air.

On se demandera peut-être pourquoi Ptolémée, en opposant ainsi les corps légers, tendant vers la périphérie, aux corps lourds, tendant vers le centre, montre si peu d'empressement à adopter une théorie unitaire, platonico-archimédienne, de l'inclination. C'est sans doute qu'en réalité, ses motivations relèvent plutôt de la cosmologie que de la physique. Car c'est la cosmologie aristotélicienne qui paraît à l'époque la mieux à même de fonder l'éternité des objets de l'astronomie—puisque les mouvements circulaires procèdent dans ce cadre d'une substance inaltérable et incorruptible. Un certain manque d'unité, cependant, caractérisait la cinématique d'Aristote: autant le mouvement circu-

²⁶ Cf. Ptol., *Tetr.* I.2 1.

laire du supralunaire pouvait être considéré comme un état, autant le mouvement rectiligne du sublunaire semblait afficher un double statut, les textes aristotéliens hésitant entre deux modèles. Tantôt, en effet, comme le remarque Simplicius (Test. 1) le mouvement rectiligne semble caractériser le trajet d'un corps simple vers son lieu propre, tantôt il semble plutôt s'agir de la réalisation même de l'élément. L'élément, autrement dit, tendrait toujours vers l'une des deux directions cosmiques, mais serait parfois empêché dans sa trajectoire, parfois non. Les seules zones véritablement statiques seraient ainsi de pures limites, à savoir le centre géométrique du monde et la surface externe de la sphère du sublunaire. Mais ce second cas est finalement caractérisé par le même défaut que le premier : un hiatus s'introduit entre la caractérisation cinématique de l'élément et ce vers quoi il tend mais qu'il ne saurait atteindre, le repos en l'une des deux limites géométriques du sublunaire, le centre pour la terre et l'eau, la circonférence pour l'air et le feu. Les considérations statiques de Ptolémée ont donc eu pour but, nous semble-t-il, d'unifier la cosmologie aristotélienne tout en préservant la suprématie du ciel. L'unification consistait à dénier que les éléments éprouvent une inclination en leur lieu propre, donc à rapprocher le statut des quatre totalités de l'état stable et permanent de la cinquième substance. Une distinction subsistait cependant, en ce que les quatre totalités sublunaires, comme Ptolémée cherchait à le prouver expérimentalement, demeuraient par soi immobiles, au contraire de la cinquième substance.

En conclusion, la contribution de Ptolémée apparaît davantage comme un raffinement aristotélien que comme une destruction de la cosmologie aristotélienne.²⁷ Ce raffinement vise à fournir les bases les plus saines possibles à l'astronomie. Ainsi, malgré les apparences et contre l'interprétation de Proclus et de Simplicius, l'utilisation de l'argument xénarquéen par Ptolémée, au contraire de ce qu'elle était pour son prédécesseur, est pro-quintessentielle : si l'on éradique l'essentialisme des mouvements rectilignes, c'est pour introduire à sa place une interprétation essentialiste de l'immobilité des éléments en leur lieu propre, qui ne fait que consolider l'interprétation essentialiste du mouvement circulaire de la cinquième substance.

²⁷ Cf. aussi Vuillemin (2000) 222 (passage cité *infra*, n. 42).

III. *Plotin*

Comme on l'a vu, Simplicius range Plotin parmi ceux qui soutiennent (1) que le mouvement rectiligne ne caractérise proprement aucun élément, mais ne constitue que la trajectoire de corps en devenir et en chemin vers leur lieu propre et (2) qu'en leur état naturel achevé et en leur lieu propre, les éléments «ou demeurent ou se meuvent en cercle». Sur la foi d'un tel rapport, on aurait tendance à croire que Plotin, en un passage cosmologique, aurait abordé la question de la structure de l'univers, pour en proposer une description s'écartant d'Aristote dans le sens de Xénarque: le mouvement rectiligne n'est qu'un transit vers l'achèvement de l'élément en son lieu propre. Cet achèvement se traduit soit par le repos (cas des éléments les plus bas) soit par le mouvement circulaire (cas des éléments les plus hauts). Je voudrais montrer que cette référence de Simplicius à Plotin est doublement inadéquate, tout d'abord parce que Plotin n'affirme jamais ces deux thèses, ensuite parce qu'elles trahissent la représentation qu'il se fait du sensible.

Cherchons, dans le corpus plotinien, un passage où les deux thèses apparaîtraient ensemble. Le tour d'horizon ne pose guère de difficultés: la thématique affleure seulement à deux endroits chez Plotin, en II.1 [40] 8 et en II.2 [14] 1. Dans le second de ces deux textes, Plotin a commencé par se demander si le mouvement circulaire du Ciel relevait «d'une âme ou d'un corps». Bien que le texte soit très obscur, je crois que Plotin envisage les deux possibilités, en montrant à chaque fois qu'elle doit composer avec sa rivale. Il commence par étudier la possibilité qu'il relève de l'âme, c'est-à-dire de l'âme *exclusivement*. L'argument n'est pas entièrement clair, mais aboutit quoi qu'il en soit à une objection: si l'âme est mue dans le corps en même temps qu'elle le meut, elle devrait non pas mouvoir le corps continûment, mais atteindre le but de la trajectoire. Rien, dans l'âme, n'explique la sempiternalité du mouvement circulaire. Il faut donc dégager l'âme du mouvement local proprement dit. On en vient donc à affirmer que l'âme ne se meut pas *localement*. Son «mouvement» est avant tout un retour-sur-soi (intelligible). Si donc il y a quelque chose de local dans un mouvement où l'âme est aux commandes, ce ne peut être l'âme en elle-même, toute seule: il faut une part de corporalité pour expliquer la dimension locale du mouvement. Le mouvement circulaire, dans cette hypothèse, sera par conséquent «mélangé de mouvement local et de mouvement psychique, le corps étant mû rectilinéairement par nature, l'âme le retenant; c'est par suite des deux ensemble qu'il est devenu

une chose à la fois mue et immobile».²⁸ On voit donc qu'ici, Plotin attribue clairement le mouvement rectiligne au corps en général, sans distinguer processus vers l'achèvement et état achevé. Le mouvement circulaire, s'il nous est permis de gloser ce texte, résulte d'une tendance rectiligne propre au corps contrariée par une tendance centripète propre aux réalités intelligibles auxquelles l'âme se rattache.

On en a fini avec la première hypothèse, aboutissant ainsi à la nécessité, pour rendre compte de la circularité du mouvement céleste, de composer causalité psychique et causalité corporelle. Plotin envisage maintenant l'hypothèse concurrente, qui verrait dans le corps seul l'explication de la circularité du mouvement :

Mais dira-t-on que le mouvement en cercle est le fait d'un corps ? Comment en serait-il ainsi, dès lors que tout se meut en ligne droite, y compris le feu ? À moins qu'il se meuve en ligne droite jusqu'à ce qu'il parvienne à l'endroit assigné. Quand en effet il est à l'endroit assigné, on pourra penser qu'il est de sa nature *à la fois* de se tenir immobile *et* d'être transporté vers ce qui lui est assigné.²⁹

Il est remarquable que Plotin, au contraire de la thèse que lui prête Simplicius, se refuse en fait à toute prise de position cosmologique sur le comportement cinétique «naturel» des éléments et en particulier du feu. Plotin est même, en un sens, pour des raisons qu'il nous appartiendra d'éclaircir, plus proche ici d'Aristote (qui parle davantage de *mouvements* que de *repos* naturels) que de Xénarque. Le fait toutefois qu'il laisse ouvertes les deux hypothèses (ce qui est naturel, c'est le mouvement vers le lieu naturel ; ce qui est naturel, c'est le repos en son lieu naturel) montre qu'il s'agit pour lui d'une simple question de langage. Une chose est sûre : si les corps se meuvent par nature de corps, alors ils se meuvent rectilinéairement.³⁰ Admettons cependant, cette fois-ci dans la tradition xénarquéenne, que le feu ne se meut rectilinéairement que jusqu'à sa zone propre, où seule il réaliserait son essence de feu. Alors, contre Xénarque, c'est le repos, là-haut, qu'il faudrait postuler comme état naturel. Mais le feu supérieur, de toute évidence, se meut en cercle.

²⁸ Plot., II.2 [14] 1.16–19.

²⁹ Plot., II.2 [14] 1.19–23.

³⁰ Mon interprétation est ainsi différente de celle de Falcon (2001) 212–213 et fait plus grand cas de la structure dialectique du chapitre. En d'autres termes, la seconde hypothèse ne naît pas, selon moi, d'une insatisfaction suscitée par la conclusion de la première, mais de la construction formelle de l'argument.

L'objection xénarquéenne tourne ainsi vite court. Ce qu'il faut expliquer, c'est pourquoi le feu, plutôt que de s'immobiliser une fois en haut, se met à se mouvoir en cercle. Et ce problème n'est pas xénarquéen, mais spécifiquement plotinien (ou platonicien). La première solution évoquée me semble influencée par le néo-aristotélisme d'Alexandre d'Aphrodise. La circularité du mouvement céleste serait une caractéristique qui s'attacherait au corps du feu dès lors qu'il se trouve dans les régions supérieures, pour lui éviter de se dissoudre faute de déplacement. Plotin pointe ici du doigt, implicitement, un défaut lancinant de la cosmologie d'Alexandre : à défaut de pouvoir rendre raison des phénomènes par une causalité matérielle (en partant du « bas »), on impose des explications par le « haut », en se réclamant d'exigences providentialistes (le monde *doit* perdurer éternellement tel qu'il est) qui s'apparentent à des vœux pieux : la « Providence », à laquelle Alexandre a consacré un traité conservé en arabe, désigne un souci de préservation de soi à l'œuvre dans le monde. Il faut comprendre la suite du développement de Plotin comme un bref échange entre le platonicien faussement ingénu : « Mais cela relève de la Providence ! » et l'aristotélicien insensible au fait qu'il baptise le problème plutôt qu'il ne le résout : « Mais il y a en lui de la Providence ! ».³¹ Lisons entre les lignes de Plotin metteur en scène : la seule Providence effective, c'est l'Âme du monde.³² C'est sans doute en raison du caractère insatisfaisant de cette réponse providentialiste qu'une autre lui fait suite, expliquant cette fois le mouvement circulaire du feu de manière purement matérielle et mécanique : butant sur l'extrémité du monde, le feu, bien que « désirant » le mouvement rectiligne, se met à tourner. Mais comment expliquer qu'un corps simplement corps maintienne sa trajectoire circulaire sans s'affaisser sur le centre ? La chose sera bien plus crédible si l'on postule une âme en lui responsable de la trajectoire. En outre, une

³¹ Plot., II.2 [14] 1.25–26.

³² Linguisti (2003) 263, comprend différemment ce passage excessivement allusif et attribue directement à Plotin la thèse providentialiste, *assimilée* à l'action de l'Âme du monde. Selon moi, Plotin se contenterait de *sous-entendre* que la πρόνοια d'Alexandre, si l'on veut qu'elle soit autre chose qu'un *pium desiderium*, devra céder la place, dès que l'on appellera les choses par leur nom, à l'Âme du monde. Je ne peux entrer ici dans les détails, mais je crois que la lecture de Linguisti, comme celle de Falcon (cf. *supra*, n. 30), ne fait pas assez grand cas de la structure dialectique du texte (qui disparaît d'ailleurs dans la traduction, pp. 261–262). Cela conduit à sous-évaluer le point central de l'argument de Plotin : que la *circularité* du mouvement, à la différence de son existence, est directement causée par l'âme. Je suis en revanche en accord avec la lecture verticale descendante de la physique plotinienne à laquelle se range Linguisti.

telle âme explique non seulement le prolongement de ce mouvement, mais même son éternité, puisqu'elle seule ne se « fatiguera » pas (Plotin ne soupçonne bien sûr pas le principe d'inertie).

En conclusion, que l'on parte de l'hypothèse explicative de l'âme ou de celle du corps, on aboutit dans chaque cas à se représenter le mouvement céleste comme un mixte. Mais cette apparente symétrie dialectique cache une dissymétrie. Si l'on spécifie la question en sorte de se demander cette fois pourquoi non pas du *mouvement circulaire* mais, de manière interne au mouvement, pourquoi de la *circularité*, alors la cause est l'âme. Si le corps est cause de mouvement local, qui se confond en fait avec la translation rectiligne, l'âme est cause du fait que cette translation est circulaire.

Ce morceau dialectique est instructif à plus d'un titre. Seule sa difficulté considérable—tout y est extrêmement allusif—explique qu'il n'ait pas été exploité par les historiens de la cosmologie. L'idée directrice de Plotin, qui apparaît dans la discussion des deux hypothèses opposées, est que le corps en tant que tel, y compris le feu en tant que tel, puisqu'il est un corps, est mû de manière rectiligne. Ce serait trop rapprocher le corps de l'intelligible que de lui accorder, en son état « naturel », une situation de repos. Le sensible en tant que tel se caractérisera donc par des trajectoires rectilignes de sens contraire, dont la contrariété exprime de la meilleure façon l'agitation inquiète qui lui est propre.³³ Ainsi Plotin soutient-il dès ce traité une position strictement opposée à celle que lui prête Simplicius. À la différence de ce qu'affirment Xénarque et Ptolémée, le repos, pour Plotin, ne caractérise pas les corps en leur lieu « naturel ». Ce qui caractérise véritablement le corps, c'est la discontinuité irrégulière et pleine de contrariété des trajectoires rectilignes. Le mouvement circulaire du ciel s'explique par l'influence de l'intelligible sur le sensible : les corps, en tant que tels matériels, sont affectés par nature de mouvements rectilignes. Le mouvement psychique est, par définition, un retour sur soi. Le ciel se trouvant à la croisée du sensible et de l'intelligible, il est affecté d'un mouvement rectiligne tendant perpétuellement au retour sur soi. Plotin n'a bien sûr pas les outils mathématiques ni le concept de vitesse instantanée qui auraient permis la décomposition, opérée pour la première fois au XVII^e siècle, de la trajectoire circulaire selon un vecteur vitesse tangent

³³ Cf. Plot., VI.3 [44] 23.1–5. L'importance de ce texte est soulignée par Chiaradonna (2002) 206 qui le traduit en italien.

et un vecteur accélération centripète. Il est d'autant plus remarquable que sa conception explicitement anti-aristotélicienne d'un mouvement non étendu, intemporel, acte «ponctuel» pur (cf. *Enn.* VI.1 [42] 16), lui permet d'abandonner le primat de l'ensemble de la trajectoire (mouvement *rectiligne*, mouvement *circulaire*), c'est-à-dire de l'*expliquer* comme la résultante d'un comportement cinétique instantané. Ce comportement est analysable selon deux axes. Le premier correspond à la tendance «rectiligne» du corps, le second, dirigé vers le centre du cercle, au retour sur soi caractéristique de l'intelligible.³⁴

On m'objectera peut-être que Simplicius pourrait songer davantage au traité II.1 [40] qu'à II.2 [14]. Certes, dans son traité *Περὶ κόσμου* (II.1 [40]), Plotin semble—à tort, comme on va le voir—évoquer la thèse cosmologico-statique qui nous intéresse. Elle apparaît brièvement au cours du dernier chapitre, destiné à montrer l'indépendance ontologique du ciel à l'égard du monde d'en bas. La conclusion, où apparaissent les considérations qui nous intéressent, est exprimée de manière peu claire par Plotin. Voici tout d'abord le grec:³⁵

Οὐδὲν δεῖ τοίνυν ἄλλου σώματος τῷ οὐρανῷ, ἵνα μένη, οὐδ' αὖ, ἵνα κατὰ φύσιν ἢ περιφορά· οὐ γὰρ πῶ δέδεικται οὐδὲ ἐπ' εὐθείας οὐσὰ ἢ κατὰ φύσιν αὐτῷ φορά· ἢ γὰρ μένειν ἢ περιφέρεσθαι κατὰ φύσιν αὐτοῖς· αἱ δ' ἄλλαι βιασθέντων.

On peut commencer par ce qui apparaît comme une paraphrase de ce passage par Simplicius (cf. *supra*, Test. 1): «... Ptolémée, Xénarque, Plotin <disent que> les éléments, quand ils sont dans leur état naturel et dans leurs lieux propres soit demeurent soit sont mus en cercle (ἢ μένει ἢ κύκλῳ κινεῖται)». Demeurent, ajoute Simplicius, la terre, l'eau et l'air stagnant qui nous environne, se meuvent en cercle l'air subtil

³⁴ Notons en passant que Plotin a pu trouver un élément d'inspiration, sur ce point, en *Tim.* 40 ab. Platon attribue en effet là deux mouvements aux astres qui n'errant pas, l'un de rotation, «l'autre vers l'avant, puisqu'il est dominé par la révolution du Même et semblable». Immédiatement après, Platon spécifie que les astres non errants ne sont mus par aucun des cinq mouvements restants, soit vers le haut, le bas, la droite, la gauche et l'arrière. Il y a donc identification du mouvement de révolution et d'un mouvement rectiligne vers l'avant. Plotin aurait en outre interprété le mouvement de rotation propre à chaque astre comme, également, une tendance retenant la tendance rectiligne de s'éloigner à l'infini. De manière plus générale, la position de Plotin peut apparaître comme un commentaire libre de *Leg.* X 897 b–899 a. Sur la théorie platonicienne du mouvement, et ce qui l'oppose à celle d'Aristote, voir Vuillemin (1991).

³⁵ Plot., II.1 [40] 8.15–19. J'avais écrit le commentaire de ce passage avant de pouvoir consulter Wilberding (2006) 231–233. Je note avec satisfaction que nos interprétations générales concordent.

des hautes sphères et le feu. Tout se passe donc comme si Simplicius avait compris le pronom αὐτοῖς, sans référent chez Plotin, comme un renvoi aux quatre éléments. Cette interprétation rejaillissait immédiatement sur l'interprétation à donner de la disjonction ἢ... μένειν ἢ περιφέρεσθαι : il s'agissait d'une typologie des différents comportements cinétiques *des* éléments (au pluriel). Le raisonnement de Plotin aurait consisté à dire qu'en leur état naturel, les quatre corps simples sont soit au repos, soit mus en cercle. Cette interprétation est très exactement celle de Proclus.³⁶ Il n'est pas impossible que celui-ci soit la véritable source d'inspiration de Simplicius, plutôt qu'une consultation directe du texte des *Ennéades*.

Est-ce bien ainsi, maintenant, qu'il faut comprendre le texte de Plotin ? Sans doute pas. Car l'alternative ἢ... μένειν ἢ περιφέρεσθαι n'est pas introduite pour la première fois au moment de justifier l'exclusion du mouvement rectiligne, mais trois lignes plus haut (cf. ἵνα μένη, οὐδ' αὖ, ἵνα κατὰ φύσιν ἢ περιφορά) au cours d'une précision concernant exclusivement *le ciel* (cf. τῷ οὐρανῷ).³⁷ Il ne s'agit donc pas de faire une typologie des comportements cinétiques élémentaires, mais d'insister sur deux *aspects* de la substance céleste. En un sens, elle *demeure* (μένει), c'est-à-dire à la fois *subsiste* éternellement et, plus précisément ici, *reste* globalement invariante ; en un autre sens, elle se « meut en cercle » (κύκλῳ κινεῖται), c'est-à-dire est caractérisée par les mouvements de rotation qu'étudient les astronomes.³⁸ Le αὐτοῖς ne désignerait donc pas les quatre corps simples, mais les différentes entités célestes, desquelles on peut dire soit qu'elles demeurent (en tant que le ciel ne change pas

³⁶ Cf. *supra*, p. 26, Test. 2, ainsi qu'*In Tim.* III 2.11.24–31 : εἰ δὲ τούτων ὅφ' ἡμῶν λεγομένων ὁ Ἀριστοτέλης ἀποροῖ, πῶς οὖν, εἰ πῦρ ἐστὶν ἐν οὐρανῷ, κύκλῳ κινεῖται καὶ οὐκ ἐπ' εὐθείας, λεκτέον τὸν Πλωτίνειον λόγον πρὸς αὐτόν, ὅτι πᾶν σῶμα ἀπλοῦν ἐν τῷ οἰκεῖῳ τόπῳ ὃν ἀκίνητον μένει ἢ κύκλῳ κινεῖται, ἵνα μὴδὲ ὥς ἀπολείπῃ τὸν οἰκεῖον τόπον· ἄλλως γὰρ κινούμενον ἢ οὐκέτι ἐστὶ ἐν τῷ ἑαυτοῦ τόπῳ, ἢ οὐπω ἐστὶν ἐν αὐτῷ.

³⁷ Plot., II.1 [40] 8.13–16.

³⁸ Wilberding (2006) 232–233 s'interroge sur le sens de la disjonction et surtout sur celui de μένειν, qu'il traduit par «to remain at rest». Il évoque, p. 233, le phénomène de στήριγμός des planètes. Mais comme il le note lui-même, Plotin savait bien que ce «repos» n'était qu'apparent. Je crois qu'en dépit de sa critique de l'interprétation néoplatonicienne (p. 232), Wilberding se laisse encore influencer par sa compréhension «xénarquéenne» de μένειν, c'est-à-dire confond les notions plotiniennes de repos (ἡρεμία) et de permanence (μονή). Le premier de ces termes renvoie au repos momentané d'un objet (cf. Chiaradonna [2002] 206) et ne concerne pas, à ce titre, les êtres célestes, qui sont toujours en mouvement ; le second se rapporte à tout ce qui perdure, qu'il s'agisse d'une substance ou d'une détermination, cette dernière pouvant être, comme ici, locale (et globale).

de lieu), soit qu'elles se meuvent en cercle. Je *paraphraserais* donc le texte de Plotin comme suit :

Par conséquent, il n'est en rien besoin d'un autre corps pour le ciel afin qu'il demeure, ni non plus afin qu'il y ait³⁹ une révolution selon la nature. <Je ne mentionne que ces deux états> car ce n'est pas demain la veille qu'on montrera que sa translation naturelle a lieu en ligne droite. En effet, pour ces choses-ci <i.e. les choses célestes>, selon la nature, <on peut dire qu'>elles demeurent, ou bien <qu'>elles se meuvent en cercle. Les autres mouvements appartiennent aux choses ayant subi une contrainte.⁴⁰

Au terme de cette lecture, force est d'admettre que Simplicius, à la suite de Proclus, a détourné le sens obvie des arguments de Plotin. Ce dernier ne s'est jamais rangé à la critique de la cosmologie aristotélienne proposée par Xénarque et partiellement reprise à son compte par Ptolémée. Plotin refuse en fait toute tentative pour assigner, aux corps d'ici-bas, des états stables. Le seul *état* qu'il reconnaît au sublunaire, c'est une *instabilité*. C'est la thèse explicite du traité II.2, rédigé le plus tôt, mais c'est aussi, de manière implicite, celle du traité II.1, qui n'évoque la stabilité qu'au niveau du ciel. Ce n'est pas un hasard si ce traité précède immédiatement, dans l'ordre chronologique, le traité *Sur les genres de l'être* (VI.1–3 [42–44]), dans lequel Plotin insiste sur l'instabilité chronique du mouvement sensible.⁴¹ Est-ce à dire que Plotin n'a pas varié entre II.2 et II.1 ? On ne l'affirmera pas non plus, car Plotin ne rappelle pas, en II.1, le schème de l'analyse du mouvement circulaire selon deux composantes «orthogonales», l'une sensible et l'autre intelligible. Les indices sont trop ténus pour nous permettre d'interpréter avec certitude ce petit décalage. Je n'exclurais cependant pas que le poids de la tradition, qui faisait du mouvement circulaire un mouvement simple, élémentaire et parfait, était trop fort pour céder aussi facilement la place, en l'absence d'outils mathématiques susceptibles de donner

³⁹ Je lis η à la place du $\dot{\eta}$ de Henry-Schwyzler. La correction me paraît plus économique et surtout, meilleure quant au sens que le $<\eta>$ $\dot{\eta}$ de Kirchhoff, qui fait nécessairement de η περιφορά le sujet et de κατά φύσιν l'attribut.

⁴⁰ Wilberding (2006) 93, traduit ainsi ce dernier membre de phrase : «the other motions would belong to them only if they were forced». Un tel effet de sens n'est pas à exclure, mais je crois plus conforme aux conceptions physiques de Plotin de noter franchement que tout le sensible, à l'exception du Ciel, est mû sous la contrainte.

⁴¹ Cf. Plot., VI.3 [44] 27 et le commentaire de Chiaradonna (2002) 206–207 : «Qui Plotino contesta che il concetto di $\sigma\tau\acute{\alpha}\sigma\iota\varsigma$, il quale designa la “stabilità” propria delle realtà intelligibili—uno dei cinque “generi sommi”—possa applicarsi in alcun modo al mondo dei corpi».

corps à son étude.⁴² Plotin est donc sans doute revenu, d'un schème où une décomposition selon deux composantes d'un comportement cinématique reflétait le caractère ontologiquement mixte du mobile, à un schème où un comportement cinématique axiologiquement intermédiaire et analytiquement irréductible s'oppose à deux autres, l'un inférieur (le mouvement rectiligne sublunaire) et l'autre supérieur (le mouvement de l'intellect). La catégorie de l'intermédiaire axiologique, soluble dans l'aristotélisme, prend ainsi finalement le pas sur l'intuition éphémère de la décomposition du mouvement circulaire, qui ne l'était pas et qui aurait permis—c'est tout le paradoxe du plotinisme, anti-aristotélisme avorté—d'exprimer le gradualisme platonicien dans une syntaxe émancipée de la différence spécifique.⁴³

IV. Conclusion

Des trois auteurs qu'en suivant l'indication de Simplicius nous avons pris en considération, le plus proche d'Aristote est paradoxalement le mathématicien Ptolémée, le plus critique le philosophe Plotin. Mais

⁴² Cf. Vuillemin (2000) 222: «L'illusion aristotélicienne, qu'on voit subsister chez Ptolémée, est la première d'une longue série à propos de l'oscillation des courbes, domaine dans lequel l'intuition spatiale produit assez naturellement des généralisations trompeuses. Surtout, l'analyse d'Aristote confirmait un préjugé mathématique que les astronomes grecs partagèrent à l'exception des atomistes. Il s'agit de la perfection et de la simplicité du cercle, par contraste avec l'infinité (et donc l'imperfection) et la composition de la droite. Dans le mouvement circulaire uniforme, on ne se représente pas quel vecteur porte la vitesse constante. Une telle représentation eût conduit à choisir la tangente en chaque point de la circonférence et à s'interroger, comme le fera Descartes, sur la raison pour laquelle le mobile reste sur la circonférence au lieu de s'éloigner à l'infini ainsi qu'il devrait arriver même pour une vitesse tangentielle constante, une telle analyse devait aboutir à la découverte d'une accélération centripète constante dans le mouvement circulaire uniforme, complètement étrangère à la dynamique et à la cinématique des Anciens». En confirmation, on peut noter que même un esprit aussi subtil et indépendant que Chrysippe reprend avec approbation la bipartition aristotélicienne des mouvements, cf. *SVF* II.492: τὰς δὲ πρώτας κινήσεις εἶναι δύο, τὴν τε εὐθεῖαν καὶ τὴν καμπύλην. Sur les classifications mathématiques anciennes des courbes (avec l'édition d'un nouveau texte de Simplicius), voir Rashed [R.] (2005); et sur les enjeux théologiques, Rashed [M.] (2002).

⁴³ Car il n'y aurait plus d'opposition discrète (et saisissable au moyen de différences spécifiantes coordonnées) entre trajectoire rectiligne et circulaire, mais continue *dégradation*, à mesure que l'intelligible relâche son emprise sur le sensible, du circulaire en rectiligne. Le rectiligne serait ainsi un mouvement dont le centre intelligible se retrouverait éloigné à l'infini. Sur l'opposition des ontologies de la différence spécifique et de celles du degré, ainsi que sur la difficile position de Plotin, on lira l'article fondamental de Chiaradonna (2006), en part. p. 83.

ni l'un ni l'autre, on pense l'avoir montré, n'a repris à son compte les objections de Xénarque : Ptolémée maintient la cinquième substance et Plotin refuse la théorie du repos naturel des corps sublunaires. Si les néoplatoniciens d'Athènes ont pu voir chez ces trois auteurs un même objectif et des résultats identiques, c'était pour construire, de toutes pièces, un « front uni » contre ce que la cosmologie d'Aristote pouvait avoir d'anti-platonicien. Mais leur anti-aristotélisme ne coupe pas vraiment les ponts avec la cosmologie du Stagirite. En remplaçant, avec Xénarque, un système ordonné du sublunaire par un autre, ils se montraient insensibles à l'effort de Plotin pour refuser, justement, que le sensible—identifié ici au sublunaire—contienne en lui-même, « par nature », les raisons de son ordre, quelles que soient les régularités des phénomènes.⁴⁴

⁴⁴ Je remercie Riccardo Chiaradonna et Christian Wildberg pour leurs remarques. Les erreurs sont miennes.

LE TRAITÉ DE GALIEN *SUR LA DÉMONSTRATION* ET SA POSTÉRITÉ TARDO-ANTIQUE

Riccardo Chiaradonna

Rédigé sans doute peu avant le premier séjour de Galien à Rome (162),¹ le traité perdu *Sur la démonstration* (Περὶ ἀποδείξεως, *De Demonstratione* [DD]) a eu une postérité importante dans l'Antiquité tardive. On trouve plusieurs références à cet ouvrage chez Thémistius, Simplicius, Némésios d'Emèse, Jean Philopon. Avec les références au DD préservées dans les écrits de Galien lui-même et dans la tradition arabe—et notamment par l'ouvrage d'al-Rāzī, *Doutes à l'encontre de Galien*—,² les témoins tardo-antiques permettent de reconstruire, encore que partiellement, le contenu de cet ouvrage. La postérité de Galien au sein du néoplatonisme n'a pas fait l'objet d'une étude systématique récente : sur ce sujet, il faut encore se référer aux travaux de I. von Müller et W. Jaeger.³ S'il est manifeste que Galien a joué pour les philosophes de la fin de l'Antiquité un rôle beaucoup moins important que d'autres auteurs du II^e siècle (comme Atticus ou Numénios), il est cependant utile de prendre en considération les allusions des auteurs tardifs au DD, pour deux raisons principales tout au moins : a) ces textes nous donnent des renseignements importants sur le traité perdu de Galien ; b) le débat sur le DD de Galien ouvre une perspective sur un sujet plus vaste, le débat impérial et tardo-antique sur le statut de la connaissance. Je me propose ici de reconstruire le projet épistémologique du DD et de situer cet ouvrage dans le cadre du débat philosophique entre II^e et III^e siècle. Deux aspects de la pensée de Galien émergent : (1) son intérêt pour les débats épistémologiques

¹ Cf. Boudon (2007) 106 n. 1. Pour ne pas trop alourdir les références, je me suis borné à citer les ouvrages de Galien en signalant le volume et la page de l'«édition» Kühn. Les éditions postérieures (notamment les éditions du CMG et de la Collection des Universités de France) signalent aussi la pagination de Kühn. Une nouvelle édition commentée des fragments du DD est en préparation par Marwan Rashed et moi-même.

² Sur la postérité du DD dans la tradition arabe voir, en général, Strohmaier (1968). Sur les critiques d'al-Rāzī à Galien, voir Pines (1953).

³ Cf. Müller (1897) et Jaeger (1914). Plus récemment, on peut trouver des indications utiles dans Todd (1977); Perilli (2000); Strohmaier (2003); van der Eijk (2005) 125, 133–134.

sur le statut et les fondements de la connaissance; (2) sa négligence de la métaphysique, en particulier de principes ontologiques tels que les Idées ou les formes. Il s'agit d'une attitude générale qu'on associe usuellement à la philosophie hellénistique,⁴ et qui peut surprendre de la part d'un auteur de la seconde moitié du II^e siècle. Je voudrais montrer que Galien, historiquement parlant, se situe dans la phase finale de l'héritage hellénistique, juste avant que l'on bascule dans la pensée tardo-antique et «néoplatonicienne».

I. *L'«épistémologie appliquée» du De Demonstratione de Galien*

Les *Analytiques Seconds* d'Aristote ont été la source d'inspiration principale de Galien dans sa doctrine de la démonstration.⁵ Il a consacré un commentaire en onze livres à ce traité (cf. *Lib. Prop.* K. XIX 42)⁶ et il ne fait aucun doute que les *Analytiques Seconds* ont profondément influencé le *DD*. Cependant, comme l'a remarqué Barnes, le *DD* se fondait aussi sur les *Analytiques premiers* et Galien suivait les *Analytiques* dans leur ensemble.⁷ Dans ses ouvrages conservés, Galien ne présente pas une liste complète des parties de la méthode logique (ou démonstrative);⁸ il est cependant raisonnable de supposer qu'une telle liste aurait été analogue à celles qu'on trouve chez d'autres auteurs de son époque, qu'elle aurait donc compris la division, la définition, l'analyse, l'induction et le syllogisme.⁹

⁴ Cf. Frede (1999b) 783. La possibilité de retrouver une «métaphysique» dans les philosophies hellénistiques (et notamment dans le stoïcisme) est discutée par Brunschwig (2002).

⁵ Selon Galien, Aristote et Théophraste ont composé, dans leurs *Seconds Analytiques*, la présentation la meilleure qu'on peut donner de la démonstration scientifique: cf. *PHP* K. V 213.

⁶ Cf. Boudon (2007) 220 n. 5.

⁷ Cf. Barnes (1991) 68.

⁸ Galien utilise, de manière interchangeable, «méthode démonstrative» (ἀποδεικτική μέθοδος, cf. *CAM* K. I 266; *UP* K. IV 21; *Pecc. Dign.* K. V 64; *PHP* K. V 220, 590, 592; *MM* K. X 113, etc.), «méthodes démonstratives» (*Pecc. Dign.* K. V 64) «méthode logique» (λογική μέθοδος *Hipp. Elem.* K. I 486; *Pecc. Dign.* K. V 88; *MM* K. X 28), «méthodes logiques» (*Art. Sang.* K. IV 729; *Pecc. Dign.* K. V 89; *Diff. Feb.* K. VII 280; *MM* K. X 38). «Démonstratif» et «logique» sont *de facto* équivalents (cf. *Pecc. Dign.* K. V 91: χωρὶς ἀποδείξεως καὶ μεθόδου λογικῆς). Cet usage s'explique bien par la conception utilitariste de la logique que défend Galien: à son avis, la logique est essentiellement un instrument pour construire des démonstrations.

⁹ Cf. Alcin., *Didasc.* 3 153.30–32; 5 156.30–32; Sext. Emp., *PH* II.213. Cf. la liste des méthodes logiques que Galien retrouve dans les dialogues de Platon dans *PHP* K. V 753. Voir Frede (1981) 79.

Cette conclusion est confirmée par les témoignages. Plusieurs textes, transmis en partie par Galien lui-même, nous renseignent sur le fait que le *DD* comprenait une discussion détaillée de la déduction formelle et une exposition des différents types de syllogisme.¹⁰ On y trouvait aussi une exposition des axiomes et des principes premiers de la démonstration;¹¹ d'autres sections étaient consacrées aux doctrines de la division et de la définition,¹² au critère de vérité et à la manière dont nous avons accès aux principes de la démonstration.¹³ L'intérêt de Galien pour les méthodes de l'analyse et de la synthèse (cf. *Pecc. Dign.* K. V 80 sqq.) est un indice en faveur de l'hypothèse que Galien les abordait aussi dans le *DD*. Le but de cette discussion était très ambitieux: à la fin de son traité *De Optima Doctrina* contre Favorinus, Galien affirme avoir consigné dans le *DD* «comment, partant des éléments et des principes en chaque chose, on peut très bien démontrer tout ce qu'il est possible de démontrer» (*Opt. Doct.* K. I 52).¹⁴

Dans le *DD*, Galien se proposait donc d'instruire le médecin sur la méthode de la démonstration:¹⁵ c'est cette méthode qui assure à sa discipline un statut scientifique solide et irréfutable, identique au statut des sciences «nobles». ¹⁶ L'interprétation de ce traité est cependant compliquée du fait que plusieurs témoignages portent sur des sujets disparates, dont on comprend mal la présence dans un traité de logique et d'épistémologie. Thémistius et Simplicius attestent que, dans le livre VIII du *DD*, Galien développait une discussion de la définition aristotélicienne du temps (relation temps/mouvement: *Phys.* IV.11 218 b 33–219 a 1; 219 a 14–b 2).¹⁷ Il est probable que Galien y présentait aussi un argument contre la doctrine aristotélicienne du lieu (*Phys.* IV.4 211 b 10–19), transmis par Thémistius, Simplicius et Philopon.¹⁸

¹⁰ Cf. *Inst. Log.* 12 1; 19 1, etc.

¹¹ Cf. *MM* K. X 39.

¹² Cf. *MM* K. X 40.

¹³ Cf. *MM* K. X 39 K et *PHP* K. V 723.

¹⁴ Γέγραπται δὲ καί, ὅπως ἂν τις ὁρμώμενος ἀπὸ τῶν ἐν ἐκάστῳ στοιχείῳ τε καὶ ἀρχῶν ἀποδεικνύοι κάλ<λ>ιστα πᾶν, ὅσον ἀποδειχθῆναι δυνατόν... (texte selon Barigazzi [1991]).

¹⁵ Cf. Gal., *Ord. Lib. Prop.* K. XIX 58–60; voir, sur ce passage, Mansfeld (1994) 120.

¹⁶ Sur la position de Galien sur le statut scientifique de la médecine, cf. *infra*, n. 39.

¹⁷ Cf. Them., *In Phys.* 144.24–29; 149.4–7; Simp., *In Phys.* 708.27–32; 718.14–18.

¹⁸ Cf. Them., *In Phys.* 114.7–9; Simp., *In Phys.* 573.19–21; Philop., *In Phys.* 576.12–577.9. Cf. Müller (1897) 471. Simp., *In Phys.* 1039.13–15 présente un argument de Galien contre le principe «omne quod movetur necesse est ab aliquo moveri» (*Phys.* VIII.1); il n'est pas impossible que Galien ait formulé cet argument dans le *DD*, mais

Dans un passage du *De Aeternitate Mundi Contra Proclum*, Philopon nous a préservé l'un des fragments les plus importants du *DD*: il atteste que, dans le livre IV, Galien abordait le problème de la génération du monde et défendait la doctrine du *Timée*.¹⁹ Selon Némésios d'Emèse, Galien, dans le *DD* (ἐν τοῖς ἀποδεικτικοῖς λόγοις), disait s'être abstenu de toute assertion au sujet de l'âme.²⁰ Galien lui-même nous apprend que deux livres du *DD* (V et XIII) étaient consacrés à la doctrine de la vision, à sa valeur cognitive, à ses conditions physiologiques.²¹ D'autres *testimonia* (transmis par Galien et par al-Rāzī) portent sur la formation de l'embryon, sur la matière et le corps, sur les éléments (avec une critique d'Asclépiade), sur les observations astronomiques, etc.²²

On peut légitimement s'interroger sur la fonction de ces sections dans la structure du *DD*. Les spécialistes se sont rarement posé la question et—à ma connaissance—ne lui ont pas encore apporté de réponse satisfaisante. Selon Müller, Galien se limitait à discuter les méthodes démonstratives dans les premiers trois livres. Le reste du *DD* (soit les 4/5 de l'ouvrage !) était consacré à des sujets différents; toute la seconde partie du traité (à partir du livre VIII au moins) comprenait, selon Müller, des *excursus*, dans lesquels les méthodes démonstratives de la première partie étaient utilisées pour mettre à l'épreuve des problèmes que des médecins et des philosophes illustres avaient essayé de résoudre avant Galien; selon Müller, on pourrait déceler de légers indices en faveur de l'hypothèse selon laquelle cette «section» suivait un ordre chronologique (car Galien discute des doctrines d'Aristote dans le livre VIII et de celles d'Asclépiade dans le livre XIII).²³ S'il fallait accorder foi à Müller, le *DD* se verrait ainsi doté d'une structure étrangement semblable à celle de plusieurs ouvrages philosophiques de l'époque de notre philologue, qui s'ouvriraient sur une section théorique et comprendraient, dans la seconde partie, une section historique où les théories plus anciennes étaient présentées à la lumière des doctrines développées dans la première partie (on peut évoquer la *Kategorienlehre* d'Emil Lask, publiée en 1911, ou l'*Estetica* de Benedetto Croce, qui date de 1902).

la question est controversée: cf. Müller (1897) 471 n. 97; Pines (1960), Rescher et Marmura (1965).

¹⁹ Cf. Philop., *Aet. Mun. C. Procl.* 599.22–601.16.

²⁰ Cf. Nemes., *Nat. Hom.* 23.24–25 Morani; cf. aussi le fragment de *DD* III dans *Nat. Hom.* 82.7–10.

²¹ Cf. Gal., *PHP* K. V 626 (livre V); *UP* K. IV 275–276 (livre XIII).

²² Les fragments transmis par al-Rāzī ont été traduits par Strohmaier (1998).

²³ Cf. Müller (1897) 468.

J'ignore s'il y a des exemples parallèles dans la littérature philosophique de l'Antiquité, me bornant à noter que, si Galien avait suivi l'exemple des *πραγματεῖαι* aristotéliennes, la discussion critique des opinions d'autrui ne serait pas située à la fin du traité, mais au début. Aussi la reconstruction de Müller semble-t-elle, dans l'ensemble, assez peu fondée et anachronique. J. Barnes a très bien remarqué les limites de l'hypothèse de Müller : il n'y a tout simplement aucune raison de penser que la discussion de la méthode démonstrative n'occupait qu'1/5 du traité.²⁴ Barnes, cependant, ne propose aucune véritable explication de l'apparente hétérogénéité de l'ouvrage. Il se borne à remarquer que le style de Galien est toujours assez prolixe («expansive»), ce qui expliquerait la taille du traité et ses nombreux détours ; quoi qu'il en soit, il ne faudrait pas accorder trop d'importance, selon Barnes, aux «odd items» qui peuplent nos citations du *DD*. Cependant, une portion non négligeable des textes mentionnant le *DD* porte sur des «odd items» de ce genre, qui ne semblent donc pas avoir appartenu au traité à titre marginal ou extravagant. Galien est certes un auteur prolixe, mais il paraît peu plausible que, dans la composition d'une œuvre logique, sa curiosité l'ait conduit à des divagations hasardeuses sur nombre de sujets éloignés de son intention originaire.

Je voudrais suggérer une explication différente, fondée sur l'idée de l'utilité de la logique sur laquelle insiste Galien. On a remarqué, à juste titre, que Galien défendait une conception radicalement utilitariste de la logique.²⁵ À ses yeux, la logique est un instrument pour construire des démonstrations ; la démonstration, à son tour, est la méthode qui règle la pratique scientifique. Selon Galien, la méthode qu'il a abordé dans le *DD* amène à la «découverte des objets recherchés» (...ἀρχὴν τῆς τῶν ζητουμένων εὐρέσεως : *PHP* K. V 722 ; cf. *MM* K. X 28).²⁶ Par conséquent, l'étude des méthodes démonstratives est indispensable pour la pratique du savant (et, notamment, du médecin) : la logique est l'instrument qui permet au médecin (a) d'acquérir une connaissance générale structurée par axiomes et théorèmes et (b) de faire usage de

²⁴ Cf. Barnes (1991) 69 n. 61.

²⁵ Cf. Barnes (1993).

²⁶ Barnes (1981) 176 souligne la différence de cette conception par rapport à la conception «expositoire» de la démonstration chez Aristote. Les analogies avec la doctrine stoïcienne sont bien possibles, mais ni certaines ni incontestables : cf. Barnes (1981) 177.

cette connaissance dans la pratique de sa propre discipline, pratique confrontée à l'investigation de cas individuels toujours différents.²⁷

Il s'agit d'une position très radicale : selon Galien, les doctrines logiques n'ont pas de valeur en elles-mêmes ; ce qui n'est pas utile aux démonstrations (ἄχρηστα πρὸς τὰς ἀποδείξεις : *Lib. Prop.* K. XIX 39) peut être abandonné.²⁸ C'est ce que, selon l'expression de J. Barnes, on peut appeler la « subservience of logic to scientific ends ». ²⁹ Selon Galien, il y a donc des arguments valides du point de vue formel qui, cependant, ne doivent pas être étudiés, car ils ne sont pas « utiles ». ³⁰ Or, une telle conception utilitariste n'est point isolée à son époque : elle est ainsi vigoureusement défendue dans la proème du *Commentaire aux Analytiques Premiers* d'Alexandre d'Aphrodise.³¹ Galien et Alexandre partagent la même thèse générale : dans la logique, il ne faut étudier que ce qui sert à construire des démonstrations (cf. Alex. Aphr., *In An. Pr.* 164.25–165.2). Barnes souligne une différence entre les conceptions de ces deux auteurs : Alexandre est un philosophe péripatéticien qui, en tant que tel, défend le programme de son école, selon lequel la syllogistique catégorique peut satisfaire à toutes les exigences de la science. Galien, en revanche, montre une attitude éclectique, se gardant de suivre les doctrines d'une seule école.³² C'est pourquoi il accepte des parties de la syllogistique catégorique péripatéticienne mais, en outre,

²⁷ Cette thèse générale est sans doute l'une des raisons qui expliquent l'intérêt de Galien pour la méthode analytique et la fonction heuristique de la logique. Sur la logique comme *ars inveniendi* chez Galien, cf. Frede (1981) 75 ; à ce réseau de problèmes se rattache sa théorie de l'« indication » (ἐνδειξις), que Galien distingue de la démonstration en *Inst. Log.* 11 1. La question est complexe : la fonction heuristique de l'« analyse » chez Galien garantit, apparemment, la subsumption d'un cas problématique donné sous une règle générale déjà démontrée de manière déductive (*Pecc. Dign.* K. V 80 sqq. ; cette position de Galien est surtout manifeste dans sa théorie de la diagnose et de la conjecture technique : cf. *MM* K. X 206 ; *Loc. Aff.* K. VIII 145). Il ne faudrait pas tant parler de « méthode analytique » que de « méthode analytique/synthétique » (sur cette distinction, voir les précisions dans Cellucci [1998] 290–299). Pour une discussion plus détaillée, voir Chiaradonna (2008a).

²⁸ Cf. le passage célèbre de *Lib. Prop.* K. XIX 39–41, où Galien manifeste son insatisfaction pour l'inutile logique des écoles philosophiques qu'il avait apprise dans sa jeunesse : cette logique—dit-il—l'aurait conduit au pyrrhonisme, s'il n'avait été « sauvé » par la géométrie et l'arithmétique. Cf. le commentaire de Barnes (1993) 36–38.

²⁹ Barnes (1993) 37.

³⁰ C'est le cas des syllogismes péripatéticiens κατὰ πρόσληπιν : cf. *Inst. Log.* 19. Voir Barnes (1993) 38 sqq.

³¹ Cf. Alex. Aphr., *In An. Pr.* 1.1–9, 3.3 sqq. Sur la conception instrumentale de la logique chez Alexandre, voir Lee (1984) 44–64.

³² Cf. *Lib. Prop.* K. XIX 13 ; *Aff. Dig.* K. V 41–43. Sur l'éclectisme de Galien, cf. Hankinson (1992).

des portions de syllogistique hypothétique stoïcienne ; il ajoute aussi un autre type de syllogismes (les syllogismes relationnels), qu'il dit avoir trouvés chez les mathématiciens.³³

Sans contester les remarques de Barnes, j'ajouterais qu'il y a une autre différence remarquable entre les positions de Galien et d'Alexandre, que les interprètes n'ont pas suffisamment mise en valeur : aux yeux de Galien, la logique est une partie de la philosophie et un instrument de la médecine ; pour Alexandre, en revanche, la logique n'est pas une partie, mais un instrument de la philosophie.³⁴ Les objets prouvés par la démonstration chez Alexandre sont les objets de la philosophie théorétique, c'est-à-dire ce qui est « divin et honorable » (*In An. Pr.* 3.19 ; cf. 4.33). L'utilité de la logique est donc étroitement liée à sa fonction d'auxiliaire de la philosophie théorétique, de la « contemplation des être véritables ».³⁵

La conception utilitariste que se fait Galien de la logique est différente : il n'hésite pas à la désigner comme une partie de la philosophie (cf. *Lib. Prop.* K. XIX 39 ; *Opt. Med.* K. I 60). Cette partie est, à son tour, un instrument de la médecine :

S'il est vrai en effet que pour découvrir la nature du corps, les différences des maladies et les indications des remèdes, il convient de s'être exercé à la théorie logique et si, pour se consacrer assidûment à ces exercices, il convient de mépriser l'argent et de s'exercer à la tempérance, alors il

³³ Cf. Barnes (1993) 33–37, avec de nombreuses références.

³⁴ La doctrine selon laquelle la logique est une partie de la philosophie est associée aux Stoïciens, mais elle était devenue monnaie courante dans la philosophie hellénistique et post-hellénistique (cf. Barnes, Bobzien Ierodiakonou et Flannery [1991] 41 n. 4). J'hésiterais donc à dire que Galien suit la position stoïcienne. Il vise à souligner que la partie logique de la philosophie est la méthode de la pratique scientifique (notamment, de la médecine) : c'est cette dernière position qui le caractérise.

³⁵ Alexandre d'Aphrodise (*In An. Pr.* 3.21) arrive à proposer une remarquable étymologie du mot *θεωρία*, qu'il fait dériver de *ὄρα* et *θεῖα*. Voir Rashed (2000) 9. Sur le rapport entre la méthode démonstrative et la métaphysique chez Alexandre, cf. Bonelli (2002) (avec les précisions de Donini [2006]). On peut citer ici Marwan Rashed, qui a retrouvé dans le *Protreptique* d'Aristote la source de la doctrine du rapport entre vérité et nature que défend Alexandre dans le proème de son *In An. Pr.* : « Cherchant à saisir comment la logique pouvait être comprise comme l'instrument de la science théorétique, Alexandre restait ainsi dans le cadre de la doctrine correspondante du *Protreptique*. Il n'y a pas de vérité en dehors de celle, ontique, des êtres étudiés par la science théorétique, et le meilleur outil pour son étude est tiré de ces êtres théorisés eux-mêmes. La vérité ne se disant qu'au travers des êtres vrais, le développement d'une logique indépendante, détachée des êtres réels, ne peut-être d'aucune utilité dans son investigation » (Rashed [2000] 9–10). Selon Rashed, l'unité de la science théorétique qu'Alexandre défend dans le proème dépend du *Protreptique* et ne suit pas la tripartition présentée dans *Metaph.* VI.1.

(sc. le bon médecin) possède toutes les parties de la philosophie, la logique, la physique et l'éthique (*Opt. Med.* K. I 60–61).³⁶

Il est intéressant qu'Alexandre évoque et rejette, en *In An. Pr.* 2.22–33, une thèse qui correspond à la position de Galien : la logique, selon Alexandre, ne peut pas être une partie de la philosophie et un instrument des sciences et des arts qui se servent des syllogismes et des démonstrations. Car en ce cas, ces sciences et ces arts seraient supérieurs à la philosophie (ce qui constitue manifestement, aux yeux d'Alexandre, une conclusion qui ne mérite même qu'on la réfute). L'attitude générale de Galien est inverse : pour lui, c'est la médecine qui peut se présenter comme un savoir hégémonique, capable de satisfaire le modèle de rigueur démonstrative représenté par la géométrie d'Euclide.³⁷ La philosophie enseignée dans les écoles, en revanche, est incapable d'atteindre ce statut épistémique ; elle se concentre sur des problèmes inutiles, tels la génération du monde ou l'essence de dieu, qui dépassent en outre la possibilité d'atteindre une connaissance claire et expérimentalement vérifiable.³⁸ La visée idéologique de cette polémique est manifeste :³⁹ chez les philosophes — et notamment chez les péripatéticiens —, la médecine est l'exemple canonique d'une discipline qui ne peut s'arracher à la contingence pour atteindre le statut des sciences exactes ; à la différence des théorèmes de ces dernières, les siens ne sont jamais

³⁶ εἰ γάρ, ἵνα μὲν ἐξεύρη φύσιν σώματος καὶ νοσημάτων διαφορὰς καὶ ἰαμάτων ἐνδείξεις, ἐν τῇ λογικῇ θεωρίᾳ γεγυμνάσθαι προσήκει, ἵνα δὲ φιλοπόνως τῇ τούτων ἀσκήσει παραμένῃ, χρημάτων τε καταφρονεῖν καὶ σωφροσύνην ἀσκεῖν, πάντα ἤδη τῆς φιλοσοφίας ἔχει τὰ μέρη, τό τε λογικὸν καὶ τὸ φυσικὸν καὶ τὸ ἠθικόν. Texte et traduction dans Boudon (2007).

³⁷ Sur le modèle géométrique chez Galien, voir Lloyd (2005).

³⁸ Voir, parmi les nombreuses passages où Galien manifeste son impatience à l'égard de la philosophie enseignée dans les écoles, *Pec. Dign.* K. V 91–93 et l'exkursus autobiographique de *Lib. Prop.* K. XIX 39–40.

³⁹ Sur la défense idéologique de la médecine chez Galien, cf. Vegetti (1981) et (1994a). Ces travaux sont très importants pour reconstruire l'image du médecin chez Galien. J'hésiterais, cependant, à accepter l'interprétation générale de Vegetti, selon laquelle il y aurait chez Galien deux « modèles » différents de médecine (l'un axiomatique et géométrisé, l'autre stochastique et lié à la pratique clinique). À mon avis, l'élément « axiomatique » (médecine comme science exacte) et l'élément « stochastique » (médecine comme art qui se confronte à des cas individuels et empiriques) sont deux parties d'une seule conception de la médecine, conception selon laquelle la médecine est une science exacte, qui comprend cependant des éléments stochastiques dans l'application des théorèmes aux cas individuels (cf., en ce sens, Hankinson [1991a] 121 ; voir aussi Ierodiakonou [1995] ; Boudon [2003]). Pour Galien, il est très important de remarquer que cette application n'est pas hasardeuse : la conjecture de la médecine n'a pas le même statut que la divination (cf., pour une discussion plus détaillée avec des références aux sources et à la bibliographie, Chiaradonna [2008a]).

nécessaires.⁴⁰ Galien renverse cette opinion : il insiste sur le fait que c'est la philosophie théorétique, dont les connaissances ne dépassent pas le « plausible » (πιθανόν), qui ne peut atteindre la certitude.⁴¹ À l'égard de problèmes de la philosophie théorétique tels que la génération du monde, l'essence de l'âme ou la nature de Dieu, Galien fait profession d'agnosticisme.⁴² La médecine, en revanche, se fonde sur des théorèmes universels, exacts et vérifiables ; s'il y a un désaccord entre médecins, on peut établir qui a raison et qui a tort, ce qui n'est pas le cas pour les problèmes des philosophes.⁴³ Il y a certes des éléments non nécessaires dans les connaissances du médecin (notamment pour ce qui concerne l'application des connaissances universelles aux individus : un homme, à la différence d'Asclépius, ne peut pas connaître de manière exacte la nature individuelle de chaque malade ; il peut y avoir aussi des circonstances imprévues qui influent de manière déterminante sur la guérison des individus).⁴⁴ Galien tient cependant ces éléments pour résiduels : le bon médecin a acquis une méthode (cf. *MM K. X* 206 : μέθοδόν τινα πορισάμενος...) qui lui permet de formuler, même dans les cas les plus problématiques, une « conjecture technique » (τεχνικὸς στοχασμός) s'approchant autant de la vérité qu'il est possible à des hommes.⁴⁵

Bref : pour Galien, la logique est une partie de la philosophie qui sert à construire des démonstrations ; la démonstration, à son tour, est la méthode permettant de développer et de pratiquer la médecine de manière correcte et rigoureuse. Pour comprendre la portée de la position de Galien, il est important de remarquer que l'usage de la méthode logique s'étend à toutes les parties de la médecine, de la diagnose à la prognose et à la thérapie.⁴⁶ La logique couvre tous les moments du

⁴⁰ Cf. Alex. Aphr., *In An. Pr.* 39.19–40.4 ; 165.8–15 ; 300.3–12 ; *In Top.* 32.12–34.5 ; *Quaest.* II.12 61.1–18. Voir Ierodiakonou (1995).

⁴¹ Cf. *PHP K. V* 795. L'opposition entre la plausibilité et la vérité se retrouve à plusieurs reprises chez Galien. Voir la liste des références dans De Lacy (1984) 623.

⁴² Voir, p.ex., *Prop. Plac.* 2. Sur l'agnosticisme de Galien et ses raisons épistémologiques, cf. Moraux (1984) 785–791.

⁴³ Cf. *PHP K. V* 766–767.

⁴⁴ Cf. *MM K. X* 206–207 (distinction entre la connaissance humaine des natures individuelles et la connaissance d'Asclépius) ; *CAM K. I* 290–291 (sur l'influence de circonstances imprévues dans la guérison). Je synthétise ici ce que j'ai essayé de montrer en détail dans Chiaradonna (2008a).

⁴⁵ Cf. *MM K. X* 206–207 ; 217 ; *Loc. Aff. K. VIII* 145 ; *Cris. K. IX* 583 ; *Hipp. Off. Med. K. XVIII B* 861 ; *Hipp. Aph. K. XVIII B* 382. Sur la « conjecture technique », cf. Fortuna (2001) ; Boudon (2003) ; Chiaradonna (2008a) (avec une discussion synthétique des concepts d'approximation et de ὡς ἐπὶ τὸ πολὺ chez Galien).

⁴⁶ Cf. les remarques de Barnes (1991) 60.

savoir médical, y compris l'indication des remèdes qu'il faut administrer à chaque patient⁴⁷ (indication que le bon médecin est capable d'inférer à partir de la connaissance des connexions causales qui fondent les phénomènes observables).⁴⁸ De cette manière, la logique, l'épistémologie et la pratique scientifique se combinent très étroitement l'une à l'autre: la logique n'a de valeur qu'en vue d'une épistémologie qui, à son tour, est «an epistemology for the practising scientist» (A. A. Long à propos de Ptolémée).⁴⁹ L'usage des méthodes démonstratives fonde la possibilité d'étudier et de pratiquer la médecine de manière rigoureuse: c'est pourquoi la caractérisation du *DD* comme «traité d'épistémologie appliquée» ne paraît pas excessivement éloignée de la réalité.

Ces précisions générales conduisent, me semble-t-il, à formuler des hypothèses vraisemblables sur la présence de sujets apparemment si disparates dans le *DD*. Tout d'abord, on peut comprendre pourquoi l'analyse de la vision jouait un rôle si important dans le traité. En *PHP* K. V 723, Galien présente sa doctrine du critère naturel et dit qu'il a abordé ce sujet dans le *DD*.⁵⁰ La liste des critères naturels comprend selon Galien (a) les organes de sens dans leur condition conforme à la nature et (b) la pensée (γνώμην ἢ ἔννοιαν) par laquelle nous sommes capables de discerner l'implication et l'incompatibilité, la division, la composition, la ressemblance, la dissemblance, etc. La doctrine qui situe le critère dans la sensation et dans la «raison» (λόγος) est défendue par plusieurs auteurs de l'époque impériale: on la trouve ainsi chez Philon et Ptolémée; Sextus Empiricus (dans une section de *AM* VII qui se fonde peut-être sur Antiochos d'Ascalon)⁵¹ attribue cette doctrine à Platon et à Aristote (ainsi qu'à leurs disciples); Porphyre aussi (voir la section II de cette étude) la discute dans son commentaire aux *Harmonica* de Ptolémée et l'attribue aux «anciens». ⁵² Sa présentation dans le *DD* s'accorde au contexte «épistémologique appliqué» qu'on

⁴⁷ Cf. *Opt. Med.* K. I 60–61.

⁴⁸ Cf. Hankinson (2004) 23–24.

⁴⁹ Cf. Long (1988).

⁵⁰ Sur la doctrine du critère naturel chez Galien cf. Hankinson (1997). Hankinson souligne que les «critères» selon Galien n'ont pas de forme propositionnelle; ils ne sont pas des assertions axiomatiques qui ont la fonction de fonder la structure de la connaissance. Il s'agit plutôt de capacités physiques et psychologiques possédées par les hommes, en vertu desquelles ils peuvent parvenir à la connaissance du monde qu'ils habitent. Cf. *Opt. Doct.* K. I 48–49 et Hankinson (1997) 164–165.

⁵¹ Cf. Tarrant (1985) 106–112; Sedley (1992).

⁵² Cf. Phil., *Ebr.* 169, *Conf.* 127; Ptol., *Harm.* 3.3, *Crit.* 8–9; Sext. Emp., *AM* VII. 141–149, 217–226; Porph., *In Ptol. Harm.* 11.4–6. Cf. Long (1988).

vient d'élucider. Galien veut expliquer ce qui fonde la possibilité de développer et de pratiquer la science de manière rigoureuse. Or, en *PHP* K. V 723, Galien souligne que l'explication des critères naturels communs à tous est la condition nécessaire pour trouver le critère «selon l'art» (τεχνικόν).⁵³ Un argument parallèle se retrouve (dans un contexte manifestement anti-sceptique) en *Opt. Doc.* K. I 48–49: Galien souligne que l'existence irréfutable des arts mettant en jeu des mesures mathématiques précises impose de postuler l'existence de critères naturels, car de tels arts ne pourraient point exister sans l'existence des critères naturels qui en sont le fondement.⁵⁴ L'analyse du critère dans le *DD* avait donc pour fonction d'illustrer dans le détail les sources de notre connaissance claire et évidente du monde (cf. *PHP* K. V 626), qui font office de fondement épistémique à l'art rigoureux du médecin. Un tel contexte général, malgré l'admiration déclarée de Galien pour Aristote et Théophraste, est lourdement influencé par les débats épistémologiques hellénistiques et post-hellénistiques sur la possibilité d'atteindre une connaissance solide et évidente.⁵⁵

Selon Galien, la sensation, dans notre condition conforme à la nature, est l'une des deux sources de connaissance évidente.⁵⁶ Il n'est donc pas du tout surprenant qu'il ait consacré dans le *DD* une discussion si détaillée à la vision, à sa valeur cognitive, à ses conditions physiologiques (les conditions sous lesquelles la vision a lieu dans son état conforme à nature). Ces sections du *DD* (livres V et XIII) cadrent bien avec les discussions de Galien sur le critère, discussions qui—on vient de le voir—font partie intégrante de son projet de fondation épistémologique de la médecine.

⁵³ En *PHP* K. V 723, Galien se propose de trouver un critère «selon l'art»; d'autres textes, en revanche, soulignent le caractère «scientifique» des définitions recherchées (cf. *PHP* K. V 593). Il ne s'agit pas d'un cas isolé. On a remarqué à juste titre qu'il n'y a pas chez Galien une opposition rigide entre «science» et «art» dans le cas de la médecine. À son avis, la médecine est (a) une science rigoureuse, qui se fonde sur des axiomes et des théorèmes universels, mais elle est aussi (b) un art, qui conduit à appliquer ces théorèmes à des cas concrets et empiriques (cette application, comme le montre la doctrine de la «conjecture technique», étant conjecturale, mais pas hasardeuse: cf. *supra*, nn. 27 et 39). Cf. Boudon (2003) et Hankinson (2004), qui illustrent l'arrière-plan historique de la position de Galien.

⁵⁴ Cf. Hankinson (1997) 165.

⁵⁵ Burnyeat (1981) 137–138 a très bien illustré la différence qui sépare, sur ce point la doctrine de la démonstration chez Aristote et les doctrines hellénistiques.

⁵⁶ Cf. *MM* K. X 36. Cf. Barnes (1991) 72.

Le caractère «épistémologique appliqué» du *DD* permet aussi d'expliquer pourquoi la discussion des méthodes logiques était si étroitement unie à l'analyse de leur valeur cognitive et de leur rapport aux objets de la connaissance. De cette manière, on comprend pourquoi Galien abordait, dans ce traité, la distinction entre les problèmes qui permettent d'atteindre une connaissance scientifique par l'usage des méthodes démonstratives et ceux qui ne le permettent pas (tels le problème de l'éternité du monde, analysé en profondeur en *DD* IV, ou celui de l'essence de l'âme). À ce réseau de questions, se rattachait sans doute la discussion d'un sujet central dans l'épistémologie de Galien, le rapport entre la connaissance acquise par l'expérience et les vérités connues par la raison.⁵⁷ Comme nous le verrons plus bas, les textes transmis par al-Rāzī et Philopon suggèrent que Galien abordait ces questions au cours de la discussion du problème de l'éternité du monde, en *DD* IV. Le *DD* prenait aussi en considération un autre problème central de l'épistémologie de Galien, la manière dont on passe de la connaissance ordinaire (qui correspond à nos usages linguistiques) à la définition scientifique de ce que nous recherchons.⁵⁸

La discussion, menée dans le *DD*, de la définition aristotélicienne du temps (*Phys.* IV), transmise par des textes de Thémistius et de Simplicius, ne fait pas exception. Les témoignages des deux commentateurs sont largement parallèles et Simplicius mentionne le nom de Thémistius, dont il discute les réponses aux arguments de Galien (Simp., *In Phys.* 718.19 sqq.). Cependant, seul Simplicius (*In Phys.* 708.27–28) atteste que les arguments de Galien apparaissaient au livre VIII du *DD*. Thémistius ne peut donc pas être la source *unique* de Simplicius et il faut postuler une source commune aux deux auteurs.⁵⁹ Les deux arguments transmis portent sur la doctrine du temps comme nombre d'un mouvement selon l'antérieur et le postérieur (*Phys.* IV.11 219 b 1–2). (1) Selon Aristote, le temps n'existe pas sans le mouvement et le changement (*Phys.* IV.11 218

⁵⁷ Voir à ce propos Frede (1981).

⁵⁸ Galien a plusieurs fois abordé la distinction entre la définition «ordinaire», qui correspond aux usages linguistiques, et la définition scientifique de l'essence ; il a aussi abordé la manière dont on passe de la première à la seconde. Comme l'attestent *PHP* K. V 593 et *MM* K. X 40, ce sujet était discuté dans le *DD*. Galien l'expliquait en détail dans deux livres qu'il consacrait à la définition dans son commentaire perdu aux *Analytiques Seconds*, d'après ce qu'il dit en *Diff. Puls.* K. VIII 705–706. *Lib. Prop.* K. XIX 44 nous informe aussi sur l'existence de tout un traité dédié à ce sujet : *Comment il faut distinguer la recherche portant sur la chose de celle concernant le nom et sa signification* (cf. Boudon [2007] 168).

⁵⁹ Cf. *infra*, n. 66.

b 33–219 a 1). Galien attribue aux mots d'Aristote un sens qui modifie profondément leur signification originelle : car, selon Galien, le rapport entre le temps et le mouvement dépend du fait que nous pensons le temps et que notre pensée du temps implique la *κίνησις*. La manière dont Thémistius et Simplicius paraphrasent cette objection est presque identique, à une exception près. Selon Galien *ap.* Thémistius, nous nous mouvons quand nous pensons le temps (Them., *In Phys.* 144.24: ἐπειδὴ κινούμενοι νοοῦμεν τὸν χρόνον); selon Galien *ap.* Simplicius, nous pensons le temps comme un objet en mouvement (Simp., *In Phys.* 708.29: ὅτι κινούμενον νοοῦμεν αὐτόν). Il ne faut pas surestimer cette divergence:⁶⁰ dans le texte de Simplicius, on peut raisonnablement corriger le *κινούμενον* de 708.29 en *κινούμενοι*, car la défense d'Aristote présentée un peu plus bas par Simplicius (*In Phys.* 708.35 sqq.) suggère que selon Galien, nous nous mouvons quand nous pensons le temps, et non que nous pensons le temps comme un objet en mouvement (cf. 708.36–37: οὐκ ἄρα τῷ κινουμένους νοεῖν τὸν χρόνον λέγει μὴ εἶναι χωρὶς κινήσεως αὐτόν).

Le sens de l'argument de Galien est assez clair : le temps n'a dans sa nature aucune relation au mouvement; cette relation découle du fait que nous pensons le temps et, comme le remarque Galien, que nous ne pensons rien par une pensée immobile (*ἄκινήτῳ νοήσει*: Simp., *In Phys.* 708.32). Galien remarque que notre pensée des objets par nature immobiles (comme les pôles du cosmos et le centre de la terre, qui par nature ne sont pas susceptibles de se mouvoir)⁶¹ implique un mouvement, sans que, en conséquence, ces objets participent de la *κίνησις* dans leur nature (Them., *In Phys.* 144.27–29).⁶² (2) En *Phys.* IV.11 219 b 1–2, Aristote définit le temps comme « nombre d'un mouvement selon l'antérieur et le postérieur (*ἀριθμὸς κινήσεως κατὰ τὸ πρότερον καὶ ὕστερον*) ». ⁶³ Selon Galien, Aristote a fourni là une définition tautologique; le temps est défini par lui-même (Them., *In Phys.* 149.4: τὸν χρόνον ἀφορίζεσθαι δι' αὐτοῦ; Simp., *In Phys.* 718.14: τὸν χρόνον

⁶⁰ Urmson (1992) 117 n. 171 présente une interprétation « combinée » (et un peu artificielle) de l'argument de Galien, qui peut s'accorder tant au *κινούμενοι* de Thémistius qu'au *κινούμενον* de Simplicius. À mon avis, il est préférable de corriger le texte de Simplicius.

⁶¹ Cf., pour un analyse de cet argument et de la réponse par Alexandre d'Aphrodise, Rashed (1995) 320.

⁶² Simp., *In Phys.* 798.30–32 est plus synthétique et ne fait pas mention des pôles et du centre de la terre.

⁶³ Je cite la traduction de Pellegrin (2000) 252.

δι' ἑαυτοῦ δηλοῦσθαι). Aristote n'a pas réussi à définir le temps sans avoir recours au temps qu'il se proposait de définir. Car s'il présente plusieurs significations d'«antérieur et postérieur» (*Phys.* IV.11 219 a 14–19), ce n'est, selon Galien, que celle d'«antérieur et postérieur selon le temps» qu'Aristote peut assigner au temps. Par conséquent, la définition du temps devient «nombre du mouvement selon le temps» (*Them.*, *In Phys.* 149.7–8: ἀριθμὸν τῆς κινήσεως κατὰ χρόνον; cf. *Simp.*, *In Phys.* 718.17–18).

Ces arguments de Galien ont attiré l'attention des spécialistes. Il me semble possible de distinguer deux lignes d'interprétation. Des spécialistes comme R. Sorabji, R. W. Sharples, P. Moraux et M. Rashed⁶⁴ ont analysé les objections de Galien dans le contexte général du débat ancien sur la *Physique* d'Aristote. Plusieurs textes transmis par la tradition arabe, difficiles et controversés, apportent une contribution décisive pour illustrer les doctrines de Galien et les critiques adressées à ses arguments par Alexandre d'Aphrodise.⁶⁵ Malgré certaines zones d'ombre, les conclusions générales auxquelles parviennent les interprètes

⁶⁴ Cfr. Sorabji (1983) 82–83 et (2003) viii–ix; Sharples (1982); Moraux (1984) 729–730 n. 170; Rashed (1995).

⁶⁵ Il s'agit 1) du compendium du *Timée* de Platon écrit par Galien et transmis en arabe (cf. Kraus et Walzer [1951]): dans cet ouvrage (cf. IV 1–13 K.-W.) Galien attribue à Platon la thèse selon laquelle il y a un mouvement pré-cosmique avant à la génération du monde (le temps serait donc antérieur au mouvement des astres); 2) d'une lettre adressée à Yahyā ibn 'Adī par Ibn Abī Sa'īd (cf. Pines [1955]; Rashed [1995] 324–325), où l'on fait allusion à un traité où Alexandre réfute Galien à propos du lieu et du temps (ce traité est aussi mentionné dans le *Fihrist* d'al-Nadīm avec le titre *Contre Galien au sujet du temps et du lieu*: cf. Rashed [1995] 322 et 326 n. 99): Alexandre aurait critiqué ici la doctrine de Galien selon laquelle le temps subsiste par soi et son existence n'a pas besoin du mouvement (Galien aurait dit que Platon défendait cette opinion); 3) du traité *Sur le temps* d'Alexandre d'Aphrodise, transmis dans la version de Ḥunayn ibn Ishāq et dans la traduction arabo-latine de Gérard de Crémone (édition et commentaire dans Sharples [1982]): dans cet ouvrage, Alexandre défend l'existence d'une relation intrinsèque entre le temps et le mouvement contre un adversaire anonyme qui pourrait bien être Galien (il est donc possible, bien que non certain, que le *De Tempore* d'Alexandre ait à l'origine constitué une partie du traité *Contre Galien sur le lieu et le temps*); 4) d'un témoignage sur le *DD* transmis par al-Rāzī (dans ses *Doutes à l'encontre de Galien* 8.7–9 Mohaghegh, trad. allemande dans Strohmaier [1998] 272): Galien n'aurait pas expliqué si, à son avis, le lieu existe ou non; en ce qui concerne le temps, il l'aurait conçu comme une substance existante par soi qui est «porteuse» de la quantité (cf. aussi ce que dit, à propos du lieu et du temps chez Galien, Thābit ibn Qurra dans son traité *Sur l'infini*: cf. Sabra [1997] 23–24; Marwan Rashed va bientôt publier une nouvelle édition de ce texte, assortie d'un commentaire). À cette liste de textes transmis en Arabe il faut ajouter les scholies du ms *Paris. suppl. gr. 643* qui, comme l'a montré Marwan Rashed, dérivent du commentaire perdu d'Alexandre d'Aphrodise à la *Physique*: cf. Rashed (1995).

concordent. Il est probable que Galien se fondait sur le *Timée* de Platon pour séparer le temps du mouvement cosmique : le temps était donc conçu comme une sorte de substance existant par soi ; cette position est critiquée par Alexandre, qui défend de façon complexe et élaborée la doctrine aristotélicienne du rapport entre le temps et le mouvement. On a vu plus haut que Thémistius et Simplicius puisent à une source commune leurs témoignages sur Galien : cette source ne peut être que le commentaire perdu d'Alexandre à la *Physique*.⁶⁶ Cette ligne générale d'interprétation a été mise en cause par S. Fazzo, qui, dans un article récent, cherche à établir deux thèses générales : (1) les arguments de Galien n'attestent pas une véritable attitude anti-aristotélicienne chez Galien et, donc, ne sauraient justifier la réaction polémique d'Alexandre ; (2) la tradition arabe concernant les polémiques d'Alexandre contre Galien n'est pas fondée.

Je n'ai pas la compétence pour discuter ce que Fazzo dit à propos de la tradition arabe.⁶⁷ Je laisse aussi de côté la discussion du caractère et de l'extension des critiques adressées à Galien par Alexandre, sujet très débattu, qui mériterait une discussion approfondie qu'il n'est pas possible de présenter ici.⁶⁸ Il suffit de remarquer que Fazzo elle-même ne conteste pas l'existence de réponses adressées à Galien par Alexandre dans son commentaire à la *Physique* :⁶⁹ même si l'on ne prend pas en considération les textes transmis en arabe, l'existence de tels arguments est prouvée (a) par le témoignage de Simp., *In Phys.* 1039.13 sqq., où la critique (cf. 1039.13 : αἰτιᾶται) de Galien à *Phys.* VIII.1 est immédiatement suivie par la contre-objection d'Alexandre et (b) par les textes parallèles de Thémistius, Simplicius et Philopon sur le lieu et le temps, textes qui, comme on l'a dit plus haut, conduisent à postuler une source commune, qui ne peut être que le commentaire perdu d'Alexandre. Je ne partagerais pas non plus la thèse générale (1) mentionnée plus haut, selon laquelle Galien n'était pas, dans le fond, hostile à Aristote et qu'il

⁶⁶ Cette conclusion, qui s'applique aussi à l'argument de Galien sur le lieu transmis par Thémistius, Simplicius et Philopon, est admise comme « évidente » par Gottschalk (1987) 1168 ; cf. aussi Nutton (1987) 48 ; Rashed (1995) 322–323 ; Todd (2003) 82 n. 128, etc. Sur Alexandre d'Aphrodise comme source de Thémistius et de Simplicius, cf. la discussion des commentateurs du *De Caelo* dans Rescigno (2004) 85–98 et 115–122.

⁶⁷ Pour une discussion critique de ses conclusions, je me borne à renvoyer à Rashed (2007a).

⁶⁸ Le dossier « Alexandre vs Galien » est repris en détail dans Rashed (2007a).

⁶⁹ Cf. Fazzo (2002) 117–118. Le titre de son étude (« Alexandre d'Aphrodise contre Galien. La naissance d'une légende ») n'est donc pas parfaitement transparent.

est donc peu plausible qu'Alexandre ait mené une véritable polémique contre lui. Il est vrai que, comme le note Fazzo, Galien manifeste souvent son respect et son admiration pour Aristote ; il est tout aussi vrai qu'il regarde les *Analytiques Seconds* comme la meilleure discussion existante de la méthode démonstrative (cf. *PHP* K. V 213). Il ne me semble pas dénué d'intérêt, à cet égard, que Thémistius et Simplicius ne présentent pas les arguments de Galien comme de véritables objections. Apparemment, son but n'était pas tant de contester ouvertement ce qu'avait dit Aristote que de donner à la lettre de son propos un sens satisfaisant (quoique forcé dans le contexte originel de la *Physique*) : c'est Aristote qui, selon Galien, a affirmé que le mouvement est en nous qui pensons le temps ;⁷⁰ c'est Aristote qui a utilisé la signification de « antérieur et postérieur selon le temps » pour définir le temps. Il n'en reste pas moins que l'attitude de Galien à l'égard d'Aristote est complexe, « ambivalente », selon l'expression heureuse de F. Kovačić.⁷¹ La discussion de la psychologie d'Aristote en *PHP* ou la doctrine anti-aristotélécienne de la reproduction dans le *De Semine*⁷² montrent que l'admiration de Galien pour Aristote n'exclut pas la présence de prises de distance à son égard, ce qui, par ailleurs, s'accorde bien à son indépendance et à son éclectisme doctrinal. Ajoutons enfin que Galien suivait de près des arguments qu'on retrouve chez Atticus,⁷³ qu'il ne faut certes pas compter au nombre des fervents admirateurs du Stagirite.

En ce qui concerne les arguments sur la définition du temps, Fazzo remarque qu'il s'agit d'arguments dialectiques, qui ne portent pas sur la théorie physique d'Aristote, mais sur « les modes de définition et d'argumentation adoptés par Aristote au cours de son traité ». ⁷⁴ Je ne partagerais pas cette opinion, dans la mesure où elle pourrait suggérer que Galien sépare les « modes de définition et d'argumentation » de la nature des réalités définies. Si ce que nous venons de montrer n'est pas erroné, le *DD* se fondait sur l'unité de trois éléments : la logique, l'épistémologie, la pratique scientifique. L'analyse des concepts

⁷⁰ Simp., *In Phys.* 708.28–29 ὁ θαυμάσιος Γαληνὸς ἐν τῷ ὀγδόῳ τῆς ἑαυτοῦ Ἀποδεικτικῆς ὑπονοεῖ λέγειν τὸν Ἀριστοτέλην διὰ τοῦτο μὴ εἶναι χρόνον ἄνευ κινήσεως, ὅτι κινούμενοι [κινούμενοι *coni.*: κινούμενον *codd.*] νοοῦμεν αὐτόν. Cf. Them., *In Phys.* 144.25.

⁷¹ Cf. Kovačić (2001) 58. Sur l'attitude de Galien à l'égard d'Aristote, l'étude de référence est Moraux (1984) 686–808.

⁷² Cf. Accatino (1994).

⁷³ Cf. Baltes (1976) 63–65 ; Dörrie (†) et Baltes (2002) 88–91 (§ 162.2) et 309–12. Cf. *infra*, nn. 110–111.

⁷⁴ Fazzo (2002) 115.

logiques était étroitement liée à leur application aux sciences et aux arts qui se servent des démonstrations et pour lesquels la logique est un instrument. Il n'y a donc aucune raison de supposer que Galien développait dans ce traité une théorie de la démonstration logique en abordant occasionnellement des sujets «physiques» comme le lieu et le temps.⁷⁵ Au contraire, si—comme chez Galien—la logique n'est autre que la méthode de la science, il devient inévitable, dans un ouvrage consacré à la démonstration, d'aborder des problèmes relevant de sciences comme la médecine ou l'astronomie, pour mettre en valeur l'importance des méthodes logiques dans la découverte de leur solution appropriée. Par conséquent, il ne me semble pas tout à fait exact de dire que les arguments de *DD VIII* ne portent pas sur le fond de la théorie physique d'Aristote. Selon Galien, la définition scientifique d'un objet doit correspondre à son «essence» (οὐσία, τί ἐστὶ). Par conséquent, la discussion de la définition d'un objet porte aussi sur la tentative de compréhension de l'objet défini: la discussion de Galien vise des «modes d'argumentation» dans la mesure où ils correspondent à des «modes de compréhension».

Comme on vient de le concéder, Thémistius et Simplicius ne présentent pas les arguments de Galien comme des objections. À en juger par leurs paraphrases, il s'agit, plutôt, d'une interprétation «normative» des mots d'Aristote, interprétation qui vise manifestement à neutraliser toute relation *objective* entre le temps et le mouvement. Il n'est pas suprenant que Thémistius et Simplicius (comme l'avait très probablement fait Alexandre avant eux) rejettent les conclusions de Galien; Thémistius a beau jeu de montrer que Galien déforme grossièrement les propos d'Aristote. À l'argument selon lequel le mouvement n'est pas dans le temps, mais en nous qui pensons le temps, Thémistius répond par la citation de *Phys. IV.11* 219 a 3–4: selon Aristote, c'est le temps (et non le fait que nous le pensons) qui implique la notion (ἐπίνοια) du

⁷⁵ Comme Galien le dit dans *Ord. Lib. Prop. K. XIX* 58–60, le *DD* était pensé pour instruire les *médecins*. Il n'est cependant pas surprenant qu'on trouve dans ce traité de nombreux passages qui portent aussi sur l'astronomie, sur la géographie, sur la cosmologie et sur physique «générale» (discussions du lieu et du temps, du corps et de la matière, de l'atomisme). Il est tout à fait plausible que Galien faisait allusion à d'autres sciences (ou pseudo-sciences comme, à ses yeux, la philosophie théorétique) pour éclairer les problèmes épistémologiques inhérents à la médecine (c'est, par ailleurs, ce qu'il fait souvent dans ses ouvrages). Il faut aussi remarquer que selon Galien la physique «générale» (théorie des qualités élémentaires, critique de l'atomisme) est nécessaire pour expliquer la structure et le fonctionnement du corps: elle est donc nécessaire pour le médecin. Cf. Barnes (1991) 98; Vegetti (1994a) 1712–1713.

mouvement; Galien a donc déformé la doctrine d'Aristote (*Them.*, *In Phys.* 144.30–145.2). À l'argument sur le caractère tautologique de la définition du temps, Thémistius répond de deux manières. (1) Il remarque que la signification d'«antérieur et postérieur» utilisée par Aristote n'est pas (quoi qu'en dise Galien) celle d'«antérieur et postérieur selon le temps»; l'antérieur et le postérieur du mouvement mesuré par le temps dérivent, en revanche, de l'antérieur et du postérieur selon la grandeur et la position (cf. *Phys.* IV.11 219 a 14–16). (2) Même si Galien avait raison (antérieur et postérieur = antérieur et postérieur selon le temps), il ne faudrait pas rejeter la définition du temps. Le temps n'est rien d'autre que l'antérieur et le postérieur dans le mouvement; selon Thémistius, il est tout à fait nécessaire que les définitions signifient la même choses que les termes définis: la remarque de Galien sur le caractère tautologique de la définition du temps n'a donc pas de force (*Them.*, *In Phys.* 149.7–13).⁷⁶

Il faut reconnaître que les réponses de Thémistius ne sont pas sans fondement. Bien que je n'entende nullement défendre Galien à tout prix, je voudrais toutefois montrer que sa lecture de la *Physique*, captieuse sans aucun doute, découle néanmoins d'une stratégie précise. Galien, me semble-t-il, interprète ou, pour mieux dire, corrige les termes d'Aristote en leur donnant un sens épistémologiquement satisfaisant à ses yeux. S'il déforme le sens authentique des arguments de la *Physique*, c'est afin que son interprétation (forcée) s'accorde aux choses «comme elles sont».⁷⁷ Son exégèse vise à illustrer que le mouvement n'est qu'un phénomène concomitant, qui ne peut nullement déterminer ce qu'est le temps en lui-même. Tout au plus le temps peut-il désigner le fait que la pensée associée au temps implique un mouvement. Le témoignage d'Ibn Abī Sa'īd et, surtout, d'al-Rāzī,⁷⁸ suggère que Galien défendait la thèse selon laquelle le temps est une substance existante par soi, substance qui est un sujet «porteur» de la quantité.

Dans les textes dont nous disposons, Galien ne propose cependant pas de véritable définition de ce temps/substance. D'une telle absence, je proposerais comme explication que selon notre auteur, on ne peut ni

⁷⁶ On peut remarquer dans cette réponse de Thémistius une structure argumentative «par opposition et par résistance» (κατὰ ἔνστασιν, κατὰ ἀντιπαράστασιν) bien attestée chez Alexandre d'Aphrodise (voir Rashed [2004]).

⁷⁷ Galien, on le sait bien, n'hésitait pas à interpréter ses autorités de manière très arbitraire, pour retrouver en elles les thèses qu'il jugeait adéquates: cf., sur l'exégèse d'Hippocrate, Jouanna (2003) 249 sqq.

⁷⁸ Cf. *supra*, n. 65.

ne doit tout définir. En *MM K. X 39*, il nous dit qu'il a montré dans le *DD* comment «dans toutes les recherches, il faut remplacer le nom par la définition»; il n'est pas invraisemblable que sa discussion du temps chez Aristote ait été liée à sa discussion de la définition et de sa fonction cognitive.⁷⁹ Or, comme on vient de le voir, Galien insiste sur la nécessité d'atteindre une définition scientifique, essentielle, de l'objet sur lequel porte la recherche. Cependant, il ne pense pas qu'il faut tout définir: les définitions scientifiques portent sur les choses et non sur les mots (cf. *Diff. Puls. K. VIII 574*: οὐ γὰρ τῶν ὀνομάτων, ἀλλὰ τῶν πραγμάτων οἱ ὅροι εἰσίν). Or, il peut y avoir des objets primitifs et évidents pour nous, qu'il n'y a aucune utilité à définir.⁸⁰ La volonté de tout définir signale que l'attention va aux mots plutôt qu'aux choses, ce qui est l'opposé de ce qu'on demande à un bon médecin. Galien en arrive même à forger un néologisme pour désigner la maladie de ceux qui veulent tout définir: la «philodéfinitionite», φιλορριστία (*Diff. Puls. K. VIII 698*; cf. aussi *Diff. Puls. K. VIII 764*). Il me semble que, par son interprétation de *Phys. IV*, Galien suggère que le temps appartient à la liste des objets primitifs, manifestes à tous et non susceptibles de définition: par conséquent, Aristote n'a pas réussi à définir le temps sans présenter une définition tautologique. C'est, me semble-t-il, le sens le plus raisonnable de l'assertion rapportée par Them., *In Phys. 149.4*: τὸν χρόνον ἀφορίζεσθαι δι' αὐτοῦ; Simp., *In Phys. 718.14*: τὸν χρόνον δι' ἑαυτοῦ δηλοῦσθαι (cf. 719.11: δι' ἑαυτοῦ δεικνύμενος). Je ne partagerais pas l'opinion des interprètes qui traduisent ces verbes comme des moyens (le temps «se révèle» par lui-même).⁸¹ Il me semble plus naturel d'interpréter ἀφορίζεσθαι et δηλοῦσθαι comme deux passifs: Galien dit que le temps a été défini (par Aristote) δι' ἑαυτοῦ, à travers lui-même. La suite du texte confirme cette interprétation, car Galien, comme on l'a dit, fait allusion aux différentes significations de l'antérieur et du postérieur, dont Aristote aurait retenu dans la définition du temps la signification d'«antérieur et postérieur selon le temps». Cependant, le

⁷⁹ Sur la doctrine de la définition chez Galien, cf. la discussion de Barnes (1991) 73–75.

⁸⁰ Cf. ce que Galien dit à propos du pouls en *Diff. Puls. K. VIII 696*: καίτοι γε οὐδεμιᾶς χρείας οὔσης τῶν ὄρων, ὅταν καὶ πρὸ ἐκείνων σαφῶς νοῆται τὰ πράγματα, καθάπερ ἐπὶ τῆς τοῦ σφυγμοῦ προσηγορίας, ἣν οὐ μόνον ἰατροὶ νοοῦσιν, ἀλλὰ καὶ πάντες ἄνθρωποι.

⁸¹ Cf. (pour Simplicius) Urmson (1992) 127: «time revealed itself». La traduction du passage de Thémistius par Todd (2003) 60 me semble plus correcte: «time is separately defined through itself».

sens ultime de cet argument ne contredit pas l'interprétation à laquelle on aboutirait en prenant ces deux verbes comme des moyens,⁸² car, si Aristote n'est pas parvenu à définir le temps de manière non tautologique, la raison en est, très vraisemblablement, que le temps n'est pas susceptible d'être défini. Les caractères concomitants utilisés par Aristote ne se réfèrent qu'à la manière dont le temps est pensé ; ils ne désignent pas sa nature.

II. Une épistémologie sans ontologie

Si notre reconstitution est bien fondée et qu'elle éclaire le sens général de la discussion de la doctrine du temps chez Aristote en *DD* VIII, on retrouve par son biais certains éléments caractéristiques de l'épistémologie de Galien : la théorie de la définition, sa fonction épistémique (et ses limites), l'évidence immédiate des termes primitifs. Il faudra alors conclure qu'une telle discussion n'est pas un corps étranger, un « odd item », dans le *DD*, et que ces arguments ne sont pas linguistiques ou « formels ». Il est d'ailleurs très peu plausible de supposer (selon le vieux schème de Müller) que Galien aurait d'abord présenté de manière abstraite et formelle sa théorie générale de la définition scientifique, pour l'appliquer ensuite à des exemples concrets. Galien souligne que la définition scientifique concerne l'essence de l'objet sur lequel porte la recherche.⁸³ En *Diff. Puls.* K. VIII 704–706, il présente une synthèse de son commentaire à *An. Post.* II.10 et oppose (suivant Aristote) deux types de définition : la définition « conceptuelle » (ἐννοηματικὸς ὅρος : *Diff. Puls.* K. VIII 708), qui correspond à l'usage linguistique ordinaire, et la définition « essentielle » (οὐσιώδης), qui explique ce qu'est chaque objet (τί... ἐστὶν ἐκάστῳ τῶν ὀριζομένων τὸ εἶναι τοῦτον ἐρμηνεύειν : *Diff. Puls.* K. VIII 705).⁸⁴

Si Galien, partant de ces présupposés, avait développé une théorie de la définition du type de celle que nous trouverons, quelques décennies plus tard, chez Alexandre d'Aphrodise, il aurait dû analyser l'οὐσία dans

⁸² Interprétation qui est derrière la paraphrase de Sorabji (2003) viii : « Galen regards time as self-revealing ».

⁸³ Cf. *PHP* K. V 219 et 593.

⁸⁴ *Diff. Puls.* K. VIII 704 : δύο γένη τὰ πρῶτα τῶν ὀρισμῶν εἶναι, τὸ μὲν ἕτερον ἐξηγούμενον σαφῶς τὴν τοῦ πράγματος ἔννοιαν, ἣν ἔχουσιν οἱ ὀνομάζοντες αὐτό, τὸ δ' ἕτερον, ὡς εἴρηται, τὸ τὴν οὐσίαν διδάσκον. Sur cette distinction cf. Kotzia-Panteli (2000) ; Brittain (2005) ; Chiaradonna (2007).

sa structure et dans ses conditions générales de possibilité, ainsi que se demander comment la définition peut correspondre à cette structure.⁸⁵ Bref, il aurait dû développer une ontologie. Or, si Galien s'est beaucoup intéressé au passage de la définition « notionnelle » (soit la définition qui correspond à nos « conceptions communes » et à l'usage linguistique) à la définition « essentielle », s'il a illustré en profondeur la manière dont nous pouvons progresser de la connaissance ordinaire à la connaissance scientifique des matières que nous recherchons,⁸⁶ il manifeste en revanche très peu d'intérêt pour les problèmes d'ontologie qu'on vient d'évoquer. Il est vrai qu'en *MM* II, il défend une doctrine très intéressante des universaux *in re*, qui peut évoquer des thèses « péripatéticiennes ».⁸⁷ Il explique que des réalités sont appelées par un nom commun (p.ex. « maladie », « homme », « chien ») en vertu de la participation à une « chose » unique et identique (ἐνὸς καὶ ταύτου μεθέξει: *MM* K. X 128).⁸⁸ Comme l'a bien mis en lumière R. J. Hankinson, il s'agit d'une thèse fermement réaliste: selon Galien, le monde est objectivement structuré selon des « classes » définies et organisées, classes qu'en vertu de nos facultés « critères » nous sommes naturellement capables de reconnaître.⁸⁹ Cependant, même dans ce texte, Galien ne s'attarde pas sur le statut de ces choses uniques et identiques qui confèrent leur nom commun aux individus qui en participent; il se passe visiblement fort bien d'une discussion des conditions ontologiques de l'εἶδος immanent et de sa connaissance. Son réalisme se borne à postuler l'existence d'un fondement réel et objectif aux divisions par genres et espèces,⁹⁰ sans s'appuyer sur une ontologie de la forme et de la substance. Il s'agit donc d'un réalisme moins ontologique que taxonomique. Tandis que

⁸⁵ C'est ce qu'Alexandre fait, p.ex., dans *Quaest.* I.3 7.20–8.28; I.11a et b 21.12–24.22 (cf. Sharples [1992] 24–26; 50–55); dans la *Quaestio De Differentiis Specificis* (*Diff.*), transmise en deux versions arabes (cf. la nouvelle édition et traduction des deux versions dans Rashed [2007b], avec un commentaire philosophique approfondi). Plusieurs études ont abordé la doctrine de la substance et de la définition chez Alexandre: parmi eux, cf. Tweedale (1984); De Haas (1997) 210–219 (discussion de Alex. Aphr., *Diff.*); Rashed (2004) et (2007b); Sharples (2005).

⁸⁶ Il abordait ce sujet dans le *DD*: cf. *MM* K. X 40. Cf. la discussion approfondie dans *Diff. Puls.* K. VIII 704 sqq.

⁸⁷ Voir la discussion de Hankinson (1991a) 205 sqq.

⁸⁸ Cf. Hankinson (1991a) 209.

⁸⁹ Cf. Hankinson (1991a) 105, 131–133, 209. Je compte revenir sur ce sujet dans une étude sur la doctrine des universaux dans la tradition médicale.

⁹⁰ Galien souligne que la faculté de reconnaître la même forme dans plusieurs exemplaires co-spécifiques n'est pas limitée aux hommes, mais se trouve aussi dans des animaux comme les ânes: cf. *MM* K. X 134.

la théorie de la définition chez Alexandre d'Aphrodise se fonde sur sa doctrine très complexe et raffinée de la forme et de l'essence, Galien accorde peu d'importance à la cause formelle.⁹¹ Ce n'est pas un hasard si Galien ne fait aucune allusion à la forme dans son long excursus sur la définition, en *Diff. Puls.* K. VIII 704 sqq. En *PHP* K. V 593 il écrit :

Qu'est-ce la définition scientifique ? C'est manifestement la définition qui prend comme point de départ l'essence même de la chose... Comme on a dit dans les livres *Sur la démonstration*, nous entendons le nom d'«essence» dans sa signification la plus commune qui est, pour ainsi dire, «réalité» (ὑπαρξίς).⁹²

La définition scientifique porte sur l'«essence» (οὐσία, τί ἐστι : cf. *Diff. Puls.* K. VIII 704–705); mais la notion d'οὐσία ne renvoie pas à une «doctrine» de la substance entendue comme une ontologie qui expliquerait le statut de l'objet de la définition. Le mot ὑπαρξίς me semble ici utilisé pour désigner, de manière très générale et neutre, ce qu'un objet est dans sa «réalité» propre.⁹³ Il n'est peut-être pas trop hasardeux de reconnaître, entre les lignes de ce passage, une allusion polémique aux raffinements techniques des philosophes. Galien n'éprouve visiblement quant à lui aucun intérêt pour le projet d'une théorie de l'οὐσία; son but n'est pas de définir les conditions de possibilité d'un objet physique en général; il cherche plutôt à élucider comment nous pouvons parvenir, pour chaque objet étudié, à la connaissance de ce qu'il est dans sa réalité propre. C'est pourquoi, me semble-t-il, dans l'usage que Galien fait des définitions, le concept de «forme» est bien moins décisif que celui de χρεία (cf. *Diff. Puls.* K. VIII 708), qui renvoie à l'utilité dont une partie, par sa fonction, est dotée dans l'économie générale de l'animal.⁹⁴ On pourrait parvenir à des conclusions analogues en analysant la discussion de la différence en *MM* K. X 20 sqq. Galien développe des remarques

⁹¹ Sur l'attitude de Galien à l'égard de la cause formelle, cf. Donini (1980) 357–364; Hankinson (2003); Chiaradonna (2007) 232–234.

⁹² τίς οὖν ὁ ἐπιστημονικὸς λόγος; ὁ ἀπ' αὐτῆς δηλονότι τῆς τοῦ πράγματος οὐσίας ὁρμώμενος, ὡς ἐν τῇ Περὶ ἀποδείξεως ἐδείχθη πραγματεία... κατὰ τὸ κοινότατον τῶν σημαινομένων, ὡς ἐν τοῖς Περὶ τῆς ἀποδείξεως εἴρηται βιβλίοις, ἀκουόντων ἡμῶν τοῦ τῆς οὐσίας ὀνόματος, ὅπερ ἐστὶν οἶον ὑπαρξίς. Texte selon De Lacy (1980).

⁹³ De Lacy (1980) 435 traduit ὑπαρξίς par «being». La traduction par «existence» n'est pas correcte ici. Pour exprimer un concept comparable à notre notion d'existence, Galien se sert de ὅλη ὑπαρξίς (concept qu'il distingue de l'οὐσία): cf. *Inst. Log.* 2 1; voir, sur cet usage terminologique, Burnyeat (2003) 14–15.

⁹⁴ Sur le notion de χρεία, cf. Hankinson (2003) 46–47.

très intéressantes sur le rapport genre/différence,⁹⁵ lesquelles, cependant, ne renvoient pas à une «ontologie», mais à sa polémique contre les κοινότητες des Méthodiques. On pourrait affirmer, en résumé, que le rapport entre la logique et la physique chez Galien est direct, c'est-à-dire ne passe pas par la médiation de l'ontologie.

On vient de comparer brièvement la position de Galien à celle d'Alexandre d'Aphrodise. L'écart qui les sépare réside dans le rôle que celui-ci confère, et que celui-là ne confère pas, à l'ontologie dans l'analyse des questions logiques et épistémologiques; la doctrine de la connaissance chez Galien se passe presque entièrement de concepts ontologiques et métaphysiques. Pour caractériser sa position de manière plus précise encore, il peut être utile de comparer brièvement sa conception de la relation entre logique et physique avec celle de Porphyre.⁹⁶ Je laisse de côté la question de savoir si Porphyre a lu Galien (et, en ce cas, de savoir quels livres de Galien il a connus); le moins que l'on puisse dire, c'est que Galien et Porphyre ont parfois puisé à un matériau commun, comme le montrent d'indéniables parallèles (notamment dans leurs doctrines de la définition: cf. Gal. *Diff. Puls.* K. VIII 708–709 et Porph. *ap. Simp., In Cat.* 213.8–28 = Porph., fr. 70 Smith).⁹⁷ Porphyre présente une conception de la logique qui semble correspondre à celle de Galien. Car, selon Porphyre, non seulement la logique est indépendante de la métaphysique et de la théologie, mais elle est aussi très étroitement liée à la physique. Dans son commentaire aux *Catégories*, Porphyre défend la thèse selon laquelle les catégories sont des expressions linguistiques dotées de signification; ces expressions «signifient» les réalités sensibles (et non pas les intelligibles).⁹⁸ C'est pourquoi les *Catégories* introduisent surtout à la «partie physique» de la philosophie: φύσεως γὰρ ἔργον οὐσία, ποτὶν καὶ τὰ ὅμοια (Porph., *In Cat.* 56.30).⁹⁹

⁹⁵ Il est intéressant que le nom de Galien apparaisse dans Alex. Aphr., *Diff.*: cf. De Haas (1997) 212; Rashed (2007a).

⁹⁶ Pour une analyse plus détaillée, cf. Chiaradonna (2008b).

⁹⁷ Cf. Brittain (2005). Dans ce paragraphe, je reprend synthétiquement Chiaradonna (2007). Pour toute discussion du dossier «Porphyre vs Galien», il est indispensable de prendre en considération le traité *Ad Gaurum* sur l'animation de l'embryon, ce qu'il est impossible de faire ici.

⁹⁸ Cf. Porph., *In Cat.* 91.19–27.

⁹⁹ J'aborde en détail la relation entre logique et physique chez Porphyre dans Chiaradonna (2008b).

Les différences entre ces deux auteurs sont toutefois très importantes. Selon Porphyre, la physique n'est que l'ontologie du monde sensible. Dans son petit commentaire aux *Catégories*, il illustre cette ontologie de manière très synthétique et propédeutique au moment d'aborder la doctrine des universaux *in re* (cf. Porph., *In Cat.* 90.29–91.12). Dans d'autres ouvrages, en revanche, sa présentation est beaucoup plus approfondie : je songe en particulier à l'*excursus* épistémologique du commentaire aux *Harmonica* de Ptolémée.¹⁰⁰ Porphyre illustre ici une doctrine du critère de vérité qui correspond, dans ses très grandes lignes, à celle de Galien : le critère est situé dans la sensation et dans le λόγος.¹⁰¹ Cependant, la discussion du critère et de la définition chez Porphyre se meut sur un plan ontologique et se fonde intégralement sur sa doctrine de la forme immanente et de son abstraction¹⁰²—doctrines, comme on l'a vu plus haut, presque complètement ignorées par Galien (on pourrait parvenir à des conclusions tout à fait analogues en comparant cette section de Porphyre à Ptol., *Crit* 8–9).¹⁰³ La différence par rapport à l'épistémologie de Galien est donc frappante. Les questions que Galien pose dans le *DD* se retrouvent dans un cadre conceptuel différent, dans lequel l'ontologie est le fondement de la logique et de l'analyse du monde naturel.

On espère avoir ainsi montré qu'on peut restituer, au moins dans une certaine mesure, les motivations épistémologiques de la discussion du temps menée dans le *DD* : il s'agissait très probablement d'explorer les enjeux théoriques suscités par la question de la définition et de la possibilité de saisir de manière évidente la nature des objets étudiés.¹⁰⁴ Il est tout à fait possible—pour ne pas dire très probable—que Galien abordait de tels sujets bien avant d'entamer la discussion du livre VIII : ses grands ouvrages manifestent souvent la tendance à revenir plusieurs

¹⁰⁰ C'est ici qu'on trouve la présentation la plus détaillée de la doctrine de la forme immanente et de son abstraction : cf. *In Ptol. Harm.* 13.15–14.13. Sur cet *excursus*, cf. Tarrant (1993) 109–147 ; Karamanolis (2006) 257–266 ; Chiaradonna (2005b) et (2007).

¹⁰¹ Cf. Porph., *In Ptol. Harm.* 11.4 sqq.

¹⁰² Cf. Porph., *In Ptol. Harm.* 11.21 sqq.

¹⁰³ Je compte revenir en détail sur ces parallèles dans une autre étude.

¹⁰⁴ Les conclusions auxquelles nous sommes parvenus s'accordent également avec l'argument de Galien sur le lieu, que reproduisent Thémistius, Simplicius et Philopon et auquel al-Rāzī fait une brève allusion : Galien y propose une « expérience de pensée » (cf. Algra [2005] 251) visant à montrer la possibilité conceptuelle, plutôt qu'à prouver l'existence réelle, d'un espace vide (c'est ce que souligne, contre les objections de Thémistius, Philop., *In Phys.* 576.12–577.1). Selon al-Rāzī, 8.7–9 Mohaghegh (trad. Strohmaier [1998] 272) Galien n'aurait pas expliqué si l'espace vide existe ou non. Il est probable que l'argument sur le lieu, comme ceux sur le temps, appartenait au livre VIII du *DD*.

fois sur les mêmes sujets en empruntant des angles d'attaque différents. Mais cela ne veut dire ni que la discussion des théories physiques d'Aristote était un excursus «extravagant» (car, comme on vient de le voir, cette discussion était même intégrée aux théories centrales de l'épistémologie de Galien), ni que Galien se bornait à illustrer d'exemples concrets et historiques des théories développées ailleurs (car rien dans le programme philosophique du *DD* ne suggère un tel ordre de discussion).

Sans pouvoir proposer ici une analyse de tous les autres témoignages, je me bornerai à quelques brèves considérations sur le texte de Philopon consacré à la génération du monde d'après *DD IV* (*Aet. Mun. C. Procl.* 599.22–601.16).¹⁰⁵ Quand on lit ce passage en parallèle avec le témoignage sur *DD IV* préservé par al-Rāzī (3.18–21 Mohaghegh),¹⁰⁶ on aboutit vite à la conclusion que les remarques sur la génération du monde faisaient partie d'une discussion plus générale consacrée à la relation entre vérités de raison et expérience.¹⁰⁷ Voici une reconstruction possible de l'argument de ce livre. Comme l'atteste al-Rāzī, Galien remarquait dans *DD IV* que les observations géographiques et astronomiques prouvaient de manière incontestable que le monde est incorruptible. Sans doute Galien cherchait-il à montrer que cette évidence *empirique* ne contraignait pas de supposer que le monde n'a pas été engendré : une telle vérité de la cosmologie spéculative est dépourvue de certitude et ne dépasse pas le niveau du *πιθανόν*. Comme l'atteste Philopon, Galien défend ici le *Timée* contre la critique adressée par Aristote en *Cael.* I.10–12. Certes, il n'est pas fait mention du nom d'Aristote, mais Galien visait sans aucun doute sa position, car il se propose de contester l'évidence de l'implication mutuelle de l'incorruptible et de l'inengendré, qui caractérise l'argument d'Aristote contre Platon.¹⁰⁸ Un telle implication mutuelle, quoi qu'en dise Aristote,¹⁰⁹ n'est pas nécessaire. Si Galien reconnaît que l'assertion «tout ce qui

¹⁰⁵ Pour une discussion plus approfondie du texte de Philopon, voir Chiaradonna (forthc.a).

¹⁰⁶ Trad. dans Strohmaier (1998) 271.

¹⁰⁷ Cf., sur cet aspect central de l'épistémologie de Galien, Frede (1981).

¹⁰⁸ Voir les remarques de Tieleman (1996b) 55 sur la stratégie polémique de Galien : «Galen, then, is concerned with arguments rather than with adversaries. His argument is dialectical in the sense that he scrutinizes available arguments with a view to finding and testing basic concepts and principles».

¹⁰⁹ Cf. *Cael.* I.10 279 b 17–21 ; 280 a 28–32. Ce passage de Philopon n'est pas analysé dans Fazzo (2002).

n'a pas été engendré est aussi incorruptible» est une vérité évidente (600.14–17), il refuse toutefois que l'inverse le soit, car il est possible qu'un cosmos engendré, et susceptible de corruption dans sa nature, soit constamment maintenu dans sa condition par l'action extrinsèque d'un démiurge qui l'empêche de périr (*ap. Philop., Aet. Mund. C. Procl.* 600.23–601.16). Galien fait allusion au *Timée* (41 b) et au *Politique* (269 d; 273 e) pour caractériser l'action conservatrice du Démiurge (*Aet. Mund. C. Procl.* 600.24–601.5). L'évidence empirique que le monde ne se corrompt pas ne peut donc confirmer le principe «rationnel» selon lequel il n'a pas été engendré.¹¹⁰ Il me semble tout à fait remarquable que Galien utilise ici des arguments déjà bien présents dans les débats cosmologiques (le témoignage de Philopon trouve un parallèle précis dans le fr. 4 d'Atticus),¹¹¹ pour les intégrer à une discussion épistémologique consacrée à la relation raison/expérience et aux limites de la connaissance rationnelle.

III. *De l'épistémologie appliquée à la métaphysique:* *le De Demonstratione et les Néoplatoniciens*

Pour Galien, Platon est l'autorité philosophique la plus importante, au point que le médecin de Pergame a parfois été perçu comme un platonicien par les interprètes (même si c'est avec beaucoup de réserves et de nuances).¹¹² Il disposait d'une connaissance directe et approfondie de l'enseignement pratiqué dans les écoles philosophiques de son époque¹¹³ et, comme on vient de le voir, était sûrement influencé par des philosophes platoniciens, Atticus en particulier. Il n'en demeure pas moins que le «platonisme» de Galien est très difficile à classer. La logique, l'épistémologie, y ont une importance centrale, de même que la psychologie, l'éthique et (bien évidemment) la médecine (Galien a rédigé quatre livres de commentaires *Sur la matière médicale dans le Timée*

¹¹⁰ Cf. Philop., *Aet. Mund. C. Procl.* 600.14–19; cf. aussi Gal., *Marc. K.* VII 671. Le texte de Philopon est traduit et commenté dans Dörrie (†) et Baltes (1998) 119–121 (§ 137.10) et 421–425; Baltes signale plusieurs parallèles dans les ouvrages de Galien et chez les auteurs de son époque.

¹¹¹ Cf. Baltes (1976) 64–65. Pour une reconstruction détaillée de ces débats, cf. Rescigno (2004) 694–718.

¹¹² Je présente une discussion plus approfondie du «platonisme» de Galien dans Chiaradonna (forthc.a).

¹¹³ Cf. les très célèbres textes autobiographiques de *Lib. Prop. K.* XIX 39–41; *Aff. Dig. K.* V 41–42.

de Platon: cf. *Lib. Prop.* K. XIX 46).¹¹⁴ La théologie avait elle aussi une position importante car, selon Galien, il est indispensable de postuler la causalité d'un dieu providentiel pour expliquer la structure finale de la nature; on a également bien mis en lumière les éléments caractéristiques de la religiosité de notre médecin, éléments qu'il partage avec plusieurs auteurs de son époque.¹¹⁵ Cependant, ce que nous savons de Galien suggère qu'il n'accordait guère d'importance à des doctrines fondamentales aux yeux des platoniciens de son temps, celle des Idées en particulier.¹¹⁶ On a parfois proposé d'intéressants parallèles entre sa doctrine de la connaissance et celle d'Alcinoos,¹¹⁷ à juste titre, et il est tout aussi exact de souligner qu'on trouve dans les traités de Galien et dans le *Didaskalikos* un arrière-plan scolaire commun.¹¹⁸ Cependant, il faut se garder de mésestimer d'importantes différences: la logique et la doctrine de la connaissance chez Alcinoos se fondent sur des présupposés ontologiques très forts (notamment, la doctrine de Idées et la distinction entre les différents types d'intelligibles).¹¹⁹ Chez Galien, en revanche, il y a une relation directe entre la logique, l'épistémologie et la pratique scientifique, qui se passe de l'ontologie (c'est-à-dire, de l'analyse générale des réalités en tant qu'êtres). Je me propose maintenant de situer brièvement la position de Galien dans le contexte philosophique de son époque.

«La philosophie antique d'Antiochos à Plotin»¹²⁰ se présente sous un jour très complexe, comme une imbrication de courants, de tendances et d'écoles parcourus par une épistémologie hellénistique encore vivace. Plusieurs recherches récentes (conduites en particulier par A. M.

¹¹⁴ Voir Boudon (2007) 170 et 229 n. 14.

¹¹⁵ Voir Hankinson (1989). Sur le théologie de Galien, cf. Donini (1980) et Frede (2003).

¹¹⁶ En *Lib. Prop.* K. XIX 46 Galien ne fait pas mention d'un traité *Contre ceux qui ont une autre opinion que Platon au sujet des idées* (Πρὸς τοὺς ἐτέρως ἢ Πλάτων περὶ τῶν ἰδεῶν δοξάντας) (pace Kalbfleisch et Ilberg, qui corrigeaient de cette manière la séquence fautive du ms. A). Boudon (2007) corrige le texte grec selon la traduction arabe de Ḥunayn ibn Ishāq. Celui-ci lisait un titre qu'il a traduit de la façon suivante: *Contre ceux qui ont une autre opinion que Platon sur la théorie logique*. On aurait donc le titre Πρὸς τοὺς ἐτέρως ἢ Πλάτων περὶ τῆς λογικῆς θεωρίας δοξάντας. Cf. Boudon (2007) 230 n. 15. Sur l'absence des Idées chez Galien, cf. Donini (1980) 359–364.

¹¹⁷ Cf. Tieleman (1996a) 19; (1996b).

¹¹⁸ Cf. la discussion érudite dans Tieleman (1996a), qui prend en considération plusieurs textes de l'époque (notamment, Clem. Alex., *Strom.* VIII).

¹¹⁹ Cf. Alcín., *Didasc.* 5 155.39–156.23.

¹²⁰ Je reprend ici le titre de l'ouvrage de Donini (1982).

Ioppolo, J. Opsomer et M. Bonazzi)¹²¹ ont bien mis en lumière que les débats hellénistiques opposant les stoïciens et les académiciens sur la possibilité et le statut de la connaissance perdurent encore durant les premières siècles de notre ère. Cet héritage est visible chez des philosophes comme Favorinus ou Plutarque; il l'était davantage encore chez des auteurs plus anciens comme Antiochos d'Ascalon. Ce n'est pas un hasard si l'on utilise souvent aujourd'hui, pour désigner les traditions du I^{er} siècle avant au II^e siècle après J.-C., l'expression de «philosophie post-hellénistique».¹²² Galien, le fait est capital, a participé de manière substantielle à ces débats: il a consacré un ouvrage à Clitomaque (*Sur Clitomaque et ses solutions de la démonstration: Lib. Prop. K. XIX 44*),¹²³ il a polémique contre Favorinus,¹²⁴ il a écrit un ouvrage en défense d'Épictète contre les attaques de Favorinus;¹²⁵ sa doctrine du critère naturel correspond à celle d'Antiochos;¹²⁶ les discussions critiques du scepticisme et du stoïcisme sont omniprésentes dans ses ouvrages.¹²⁷ Comme beaucoup de ses contemporains, Galien est un auteur «archaïsant»: ses autorités principales sont Hippocrate et Platon;¹²⁸ Aristote en est une pour la logique et la doctrine de la démonstration. Il est cependant tout aussi vrai que la manière dont Galien utilise ceux qu'il revendique comme ses autorités est influencée en profondeur par les débats et les traditions hellénistiques, qu'il regarde (comme le manifestent ses polémiques constantes) comme des interlocuteurs vivants.¹²⁹

L'époque de Galien est cependant aussi celle où le platonisme et l'aristotélisme développent un intérêt de plus en plus exclusif pour la métaphysique, mouvement qui atteint son apogée à partir du début du

¹²¹ Cf. Ioppolo (1993) et (2002); Opsomer (1998) et (2005); Bonazzi (2000) et (2003).

¹²² Cf. Frede (1999b); Boys-Stones (2001).

¹²³ Voir Boudon (2007) 168 et 222 n. 8.

¹²⁴ Cf. son *Opt. Doc.* (ed. Barigazzi [1991]).

¹²⁵ Cf. *Lib. Prop. K. XIX 44*: cf. Ioppolo (1993) 198–205 et Boudon (2007) 223 n. 11. Sur les analogies entre les doctrines de la connaissance d'Épictète et de Galien, voir Barnes (1990) 132–135.

¹²⁶ Cf. Hankinson (1997).

¹²⁷ Cf. Vegetti (1994a); Manuli (1993); Hankinson (1991b).

¹²⁸ Voir, sur l'attitude complexe de Galien à l'égard de la tradition et des anciens, les remarques de Vegetti (1986).

¹²⁹ Sur l'héritage hellénistique chez Galien, voir les articles réunis dans Kollesch et Nickel (1993). La position historique de Galien (médecin-philosophe «post-hellénistique» qui précède de peu la transition à la pensée tardo-antique) correspond de manière remarquable à celle de Sextus Empiricus (s'il faut situer chronologiquement celui-ci, comme le font la grande majorité des spécialistes, au II^e siècle). Sur les analogies et les différences entre ces deux auteurs, voir p. ex. Vegetti (1994b).

III^e siècle.¹³⁰ L'époque qu'on appelle maintenant «post-hellénistique» a aussi été désignée, avec de bonnes raisons, comme l'époque de la «préparation du néoplatonisme».¹³¹ Les mêmes auteurs qui poursuivaient les débats hellénistiques sur la connaissance, le faisaient dans un contexte philosophique différent, marqué par la métaphysique.¹³² De tout ce pan de la philosophie de son époque, Galien est assez éloigné. Il est vrai que la théologie occupe une position importante dans sa conception de la nature et il y a, sur ce point, bien des parallèles entre Galien et le platonisme de son temps.¹³³ La théologie de Galien a cependant des limites bien définies et se passe de toute spéculation métaphysique sur l'essence de Dieu (cf. *Prop. Plac.* 2).¹³⁴ Par rapport aux problèmes typiques de la métaphysique platonicienne d'alors (l'essence de l'âme ou la génération du monde), l'attitude de Galien est extrêmement prudente, voire sceptique. Quelles que soient les analogies qu'ils peuvent entretenir, Galien est un philosophe différent de Plutarque, d'Atticus ou de Numénios. Il l'est davantage encore des philosophes de la fin de l'antiquité (à partir du III^e siècle) comme Plotin, Porphyre ou Simplicius, pour lesquels l'analyse du monde naturel adopte tous les traits d'une «ontologie du sensible», fondée sur l'application au monde physique de doctrines et de principes métaphysiques.

Par rapport à de tels auteurs, Galien est à la fois un philosophe d'un type différent, car il est un «philosophe scientifique», qui regarde la

¹³⁰ Sur le «tournant» du III^e siècle insiste, à juste titre, Frede (1999b) 793–797. Je me propose de consacrer une recherche approfondie au passage du II^e au III^e siècle. Dans la naissance de la philosophie «tardo-antique», il faut assigner une position fondamentale aux versions systématiques de l'aristotélisme et du platonisme développées, respectivement, par Alexandre d'Aphrodise et Plotin. C'est à ces deux auteurs qu'on doit la codification des «coordonnées ontologiques» essentielles pour comprendre les développements postérieurs (doctrines de l'essence, de la forme et de la causalité intelligible); c'est chez ces deux auteurs qu'on peut, me semble-t-il, situer le dépassement définitif de l'héritage hellénistique. Sur l'ontologie d'Alexandre et sa position dans l'histoire de l'aristotélisme, je me borne à renvoyer à Rashed (2004) et, surtout, (2007a); sur la différence entre le platonisme de Plotin et le platonisme de ses prédécesseurs «médio-platoniciens», cf. Chiaradonna (2003) et (2005a).

¹³¹ Cf. Theiler (1964).

¹³² Cf., sur Plutarque, les études de Donini (1988b) et (2002); Bonazzi (2003) et (2004). Sur l'«ontologie» de Plutarque, cf. Ferrari (1995).

¹³³ Cf. Donini (1980) et Frede (2003).

¹³⁴ Cf. Nutton (1999) 131–134; Frede (2003); le texte grec de *Prop. Plac.* a récemment été redécouvert (Ms. *Vlatadon* 14); voir l'édition dans Boudon et Pietrobelli (2005). Cette attitude de «prudence» dans la spéculation sur l'essence de Dieu a parfois été rapprochée de Plutarque: Frede (1981) 69; Donini (1992) 3500. Dans Chiaradonna (forthc.a) j'essaie de montrer que les différences entre Plutarque et Galien sont plus importantes que leurs points de contact.

philosophie comme intrinsèquement liée à la pratique de la science, et d'une époque différente, car les problèmes qui dominent chez lui correspondent à une phase de la tradition encore influencée, de manière substantielle, par les débats hellénistiques. Les textes illustrant la postérité (directe ou indirecte) du *DD* chez les auteurs tardifs se comprennent à cette lumière : il reste très peu, en eux, de l'épistémologie appliquée du *DD* ; les arguments de Galien sont intégrés et évalués dans un cadre philosophique transformé en profondeur.

Galien n'est usuellement pas compté dans la liste des «sources» de Plotin ; on décèle cependant des analogies intéressantes entre ces deux auteurs. Comme l'a montré T. Tieleman, la discussion de la tripartition de l'âme en IV.3 [27] 23 pourrait présupposer la discussion du *De Placitis* de Galien.¹³⁵ Par ailleurs, Jaeger avait souligné dès 1914 les correspondances entre la doctrine de la vision chez Plotin (cf. II.8 [35] et IV.5 [29]) et la doctrine que Galien défend dans le *De Placitis*, et qu'il avait développé en détail en *DD* V et XIII.¹³⁶ De telles analogies ne doivent pas forcément nous amener à la conclusion que Plotin avait lu Galien : il n'y a rien d'impossible à ce que ces deux auteurs reproduisent des thèses courantes à leur époque (en ce qui concerne la théorie de la vision, Jaeger supposait d'ailleurs que Posidonius était la source commune).¹³⁷ Il reste que même dans ce cas, il demeure très intéressant de considérer en détail la manière dont Galien et Plotin utilisent, chacun à sa manière, ce matériau commun.

Les arguments de *DD* VIII se retrouvent chez Plotin, et notamment dans le traité *Sur l'éternité et le temps* (III.7 [45]).¹³⁸ Plotin présente ici une objection qui est semblable à celle de Galien sur le caractère tautologique de la définition d'Aristote. Selon Plotin, le concept de «mesure du mouvement» ne suffit pas à déterminer ce qu'est le temps en lui-même ; Plotin souligne, comme Galien, que l'antérieur et le postérieur qui devraient définir le temps sont eux-mêmes déjà «temporels» :

Ce temps, donc, qui mesure le mouvement par l'«antérieur et postérieur» dépend du temps, et il est en contact avec le temps, afin de mesurer. Ou bien, en effet, l'on prend l'«antérieur et postérieur» dans le sens spatial,

¹³⁵ Cf. Tieleman (1998).

¹³⁶ Cf. *supra*, p. 53.

¹³⁷ Cf. Jaeger (1914) 46–49 ; voir aussi Reinhardt (1926) 187–192 et Emilsson (1988) 43–45, 59–61.

¹³⁸ Chiaradonna (2003) et (2005a).

par exemple le commencement d'un stade, ou bien il faut le prendre dans le sens temporel. Car, en général, l'«antérieur et postérieur» signifie, d'une part, le temps qui se termine dans le maintenant, d'autre part, le temps qui commence à partir du maintenant (III.7 [45] 9.59–63).¹³⁹

Il est impossible de déterminer si ces lignes se fondent sur un usage direct du *DD* de la part de Plotin, ou si Galien et Plotin reproduisent tous les deux un argument répandu à leur époque;¹⁴⁰ quoi qu'il en soit, on ne peut dénier que Galien et Plotin adressent à Aristote une remarque tout à fait analogue. C'est pourquoi il me semble important de souligner combien diffère le cadre général dans lequel s'inscrit leur usage de l'argument. Si la reconstruction proposée ici est exacte, l'objection de Galien prenait place au sein d'une discussion consacrée à la définition, dont le but était de montrer qu'il existe des entités primitives et manifestes (dont le temps) qu'il n'est ni nécessaire ni possible de définir. L'objection de Plotin, en revanche, s'inscrit dans un tout autre contexte, car elle fait partie d'une discussion métaphysique sur la conception du monde naturel chez Aristote (discussion occupant le traité 45, mais aussi les traités VI.1–3 [42–44], qui le précédaient immédiatement dans l'ordre chronologique).¹⁴¹

De manière très générale, Plotin adresse à Aristote le reproche de ne pas avoir saisi la nature authentique des réalités physiques qu'il prend en considération. Cela eût contraint Aristote à rapporter les réalités corporelles à la causalité des principes extra-physiques (l'âme et le λόγος) dont elles dépendent.¹⁴² Aristote n'a pas suivi ce chemin théorique : ce

¹³⁹ ἔσται οὖν ὁ χρόνος οὗτος ὁ μετρῶν τὴν κίνησιν τῷ προτέρῳ καὶ ὑστερῷ ἐχόμενος τοῦ χρόνου καὶ ἐφαπτόμενος, ἵνα μετρήῃ. ἡ γὰρ τὸ τοπικὸν πρότερον καὶ ὑστερον, οἷον ἡ ἀρχὴ τοῦ σταδίου, λαμβάνει, ἡ ἀνάγκη τὸ χρονικὸν λαμβάνειν. ἔστι γὰρ ὅλως τὸ πρότερον καὶ ὑστερον τὸ μὲν χρόνος ὁ εἰς τὸ νῦν λήγων, τὸ δὲ ὑστερον ὅς ἀπὸ τοῦ νῦν ἄρχεται.

¹⁴⁰ Je me suis borné ici à considérer les analogies entre le traité de Plotin et les témoignages grecs certains du *DD* (le parallèle, signalé par Strange [1994] 46, entre III.7 [45] 9.82–83 et l'aporie de *DD* VIII *apud* Them., *In Phys.* 144.24–29 et Simp., *In Phys.* 708.27–32 me semble douteux). Si l'on prenait en considérations les textes arabes (cf. *supra*, n. 65), le dossier des parallèles entre Galien et Plotin serait plus important : cf. Alex. Aphr., *Temp.* 5 *vs* III.7 [45] 12.15–19 ; voir Chiaradonna (2003) 236–237.

¹⁴¹ Pour une présentation plus détaillée de la position de Plotin, cf. Chiaradonna (2002), (2004b) et (2005a).

¹⁴² Il est remarquable qu'en VI.1–3, Plotin n'évoque pas le premier moteur comme une solution possible aux objections qu'il adresse à la substance et au mouvement chez Aristote : visiblement, il ne pensait pas que la substance intelligible postulée par Aristote et son type de causalité puissent résoudre les apories de la substance et du mouvement physiques. Ce fait s'explique facilement : car la causalité des intelligibles,

qu'il propose n'est, aux yeux de Plotin, qu'une description factuelle du monde sensible, en lieu et place d'une véritable fondation. L'objection contre la définition du temps en *Phys.* IV s'accorde parfaitement avec cette critique générale : car, pour comprendre ce qu'est le « nombre du mouvement selon l'antérieur et le postérieur », il faut *déjà* savoir ce qu'est le temps en lui-même. Mais, comme Plotin le dit en III.7 [45] 11, pour savoir ce qu'est le temps, il faut rendre compte des principes métaphysiques dont il dépend et, en particulier, il faut ramener sa nature à la « Vie » de l'hypostase de l'âme. Le diagnostic de l'erreur d'Aristote est donc semblable chez Galien et chez Plotin ; la thérapie, en revanche, est différente.¹⁴³

L'analyse des critiques que Simplicius, à la fin du néoplatonisme grec, adresse à Galien *DD VIII* conduit à des conclusions analogues. Simplicius (qui tient les réponses de Thémistius pour insuffisantes)¹⁴⁴ fait un usage important de notions métaphysiques. Il suffit de rappeler ici deux éléments. Dans l'analyse critique de l'argument selon lequel le mouvement n'entre pas dans la définition du temps, mais se trouve en nous qui le pensons, Simplicius fait appel à la distinction entre l'ἐνέργεια (complète) et la κίνησις.¹⁴⁵ Aristote ne peut pas avoir défendu la thèse que Galien lui attribue car, selon Aristote, l'âme ne se meut pas, mais exerce une activité complète : Aristote n'appelle « mouvements » que les changements physiques (ὁ Ἀριστοτέλης οὐ βούλεται κινεῖσθαι τὴν ψυχὴν ἀλλ' ἐνεργεῖν, μόνας ἀξιῶν τὰς φυσικὰς μεταβολὰς κινήσεις καλεῖν : Simp., *In Phys.* 708.34–36). Galien aurait probablement contesté le bien-fondé d'une telle remarque. Car, à son avis, l'ἐνέργεια est mouvement, sans qu'il ne soit nécessaire d'ajouter aucune qualification

qui selon Plotin est capable de résoudre de telles apories, est radicalement différente de la causalité des moteurs séparés aristotéliens. Plotin, autrement dit, est un allié des interprètes modernes qui contestent toute lecture néoplatonisante de *Metaph.* VI.1 (p.ex., voir Berti [1995]).

¹⁴³ On pourrait parvenir à des conclusions analogues par l'analyse du problème de la génération du monde. On a vu plus haut que Galien abordait ce problème en *DD IV*, dans le cadre d'une discussion épistémologique sur le rapport entre l'expérience et les vérités de raison. Chez Plotin, en revanche, le problème se pose sur un plan métaphysique (doctrine de la causalité des intelligibles : cf. III.2 [47] 1.15–19). Voir Chiaradonna (2003) 243.

¹⁴⁴ Cf. Simp., *In Phys.* 718.18 sqq. En général, sur la position doctrinale de Thémistius, voir Blumenthal (1979) ; Ballériaux (1994) ; Sorabji (2003) vii et (2004) 8.

¹⁴⁵ Sur l'usage de cette distinction d'Aristote par Plotin et les Néoplatoniciens : cf. Chiaradonna (2002) 147–225. Sauf erreur de ma part, les Platoniciens avant Plotin n'abordent pas cette théorie d'Aristote.

supplémentaire.¹⁴⁶ Selon Galien, l'«activité» implique la production et cet état est, essentiellement, dynamique (*MM K. X 87*: *πᾶσα μὲν οὖν ἐνέργεια κίνησις ἐστὶ δραστηκῆ*).¹⁴⁷ Comme c'est le cas pour le temps ou les universaux, Galien ne prend pas en considération les fondements ontologiques d'une telle assertion. Le fait que l'âme soit «active» dans la pensée du temps implique inévitablement qu'elle soit en mouvement. Les distinctions ontologiques évoquées par Simplicius (ou par sa source) n'ont guère d'importance à cet égard.

Le long excursus sur le sens qu'il faut donner à la définition du temps comme «nombre du mouvement selon l'antérieur et le postérieur» est lui aussi très intéressant. Simplicius prend en considération les critiques de Galien et les réponses par Thémistius. Simplicius pense qu'il est possible de défendre la définition aristotélicienne en interprétant l'antérieur et le postérieur comme «antérieur et postérieur selon l'extension de l'être» (*κατὰ τὴν τοῦ εἶναι παράτασιν*):

Par conséquent, peut-être que si l'on considère l'antérieur-postérieur selon l'extension de l'être, et non selon la position, le temps est exprimé, sans l'être par lui-même. Son nom ne sera pas identique à l'antérieur-postérieur pris absolument, mais il le sera à cet antérieur-postérieur-ci, ce qui est précisément la définition.¹⁴⁸

La signification métaphysique de cette précision n'est pas manifeste ici, mais elle le devient dans le *Corollarium De Tempore*: Simplicius y rappelle la définition du temps donnée par Damascius (Simp., *In Phys.* 774.35–37: *μέτρον τῆς τοῦ εἶναι ῥοῆς, εἶναι δὲ λέγω οὐ τοῦ κατὰ τὴν οὐσίαν μόνον, ἀλλὰ καὶ τοῦ κατὰ τὴν ἐνέργειαν*) et le concept de *παράτασις* est interprété dans le cadre de la hiérarchie métaphysique néoplatonicienne (Simp., *In Phys.* 774.18 sqq.).¹⁴⁹

¹⁴⁶ Il est intéressant de remarquer que Plotin, dans un tout autre contexte, défend contre Aristote la thèse de l'identité complète entre l'ἐνέργεια et le mouvement: cf. VI.1 [42] 16. Voir Chiaradonna (2002) et (2004b).

¹⁴⁷ Cf. Hankinson (1991a) 171. Sur la doctrine du mouvement chez Galien et sur sa relation avec Aristote et la tradition péripatéticienne, cf. Kupreeva (2004).

¹⁴⁸ Simp., *In Phys.* 719.14–18 *μήποτε οὖν εἴ τις τὸ πρότερον καὶ ὕστερον λαβῇ τὸ κατὰ τὴν τοῦ εἶναι παράτασιν, ἀλλ' οὐ τὸ κατὰ τὴν θέσιν, καὶ σημαίνεται ὁ χρόνος καὶ οὐ δι' ἐαυτοῦ σημαίνεται. καὶ τὸ ὄνομα αὐτοῦ <οὐ> τῷ προτέρῳ καὶ ὕστερῳ ἀπλῶς τὸ αὐτὸ ἔσται, ἀλλὰ τῷ τοιῶδε προτέρῳ καὶ ὕστερῳ, ὅπερ ἐστὶν ὁ ὁρισμός*. Trad. dans Lefebvre (1990) 18.

¹⁴⁹ Cf. Hoffmann (1983); Lefebvre (1990).

IV. *Conclusion*

Le but de cet article était triple (ce qui, j'espère, pourra faire pardonner certains allers-retours dans l'exposition). Je me suis proposé (a) d'illustrer la structure et le sens général du traité perdu (et jusqu'à présent très peu étudié) de Galien *Sur la démonstration*; (b) de considérer les traces de sa postérité chez des auteurs de la fin de l'Antiquité; (c) de situer ce dossier dans un contexte historique et philosophique plus vaste (transition de la philosophie post-hellénistique à la philosophie tardo-antique). Si je ne me suis pas égaré, les fragments du *De Demonstratione* de Galien ont une importance considérable. Tout d'abord, ils permettent de saisir le caractère propre de l'épistémologie de Galien et sa liaison étroite avec sa pratique de médecin-philosophe (un élément qui rattache Galien à Ptolémée et qui, il y a vingt ans, a été très bien remarqué chez ces deux auteurs par A. A. Long).¹⁵⁰ En second lieu, ces témoignages, replacés dans l'ensemble de la pensée de Galien, attestent que, jusque dans la seconde moitié du II^e siècle, le dépassement de l'héritage philosophique hellénistique et la construction d'un aristotélisme et d'un platonisme dogmatiques étaient bien engagés, mais point encore achevés.

Entre Galien et Porphyre, on peut situer un véritable tournant historique, que les interprètes n'ont pas toujours mesuré à sa juste portée; le négliger, c'est pourtant s'interdire de rien comprendre au «néoplatonisme» et à son rapport aux traditions philosophiques plus anciennes. Au terme de ce qu'on peut interpréter comme un processus d'ontologisation radicale, les doctrines de la forme, de la substance, de la hiérarchie des étants s'imposent comme le centre exclusif autour duquel s'organisent les différentes positions philosophiques; les questions épistémologiques et physiques ne tirent plus alors leur sens que des ontologies qui les fondent. Quoi qu'il en soit des raisons historiques, culturelles, religieuses, etc. de ce tournant, deux auteurs le marquent du point de vue proprement doctrinal: Alexandre d'Aphrodise et Plotin. C'est avec ces deux philosophes (que je n'hésiterais pas à caractériser comme «semblables et contraires» dans les efforts qu'ils déploient pour systématiser, respectivement, l'aristotélisme et le platonisme)¹⁵¹ que sombre définitivement le monde philosophique auquel Galien se

¹⁵⁰ Cf. Long (1988).

¹⁵¹ Cf. Chiaradonna (2005a).

rattache encore par nombre de fils. Avec ces deux systématiciens, une conception ontologisante et systématisante de la philosophie s'impose sans retour, qui marquera de son sceau la fin de l'Antiquité et les périodes qui suivront.¹⁵²

¹⁵² Je tiens à remercier Frans de Haas et Anna Maria Ioppolo, qui ont lu une première version de cet article, pour leurs remarques. J'ai une dette très grande à l'égard de Marwan Rashed, pour ses suggestions et sa révision patiente.

PLOTINUS ON QUALITY AND IMMANENT FORM

George Karamanolis*

I

In this paper I intend to discuss Plotinus' view of quality, because, I believe, it would shed some light on Plotinus' ontology and on the relation between sensible and intelligible world, most especially. Plotinus discusses quality in *Enn.* II.6 [17], a short, dialectical, and obscure treatise, and then in *Enn.* VI.1–3 [42–44], especially in *Enn.* VI.2 [43] 14 and in *Enn.* VI.3 [44] 8–15, in the framework of his criticism of Aristotle's theory of the categories. There are some considerable differences between *Enn.* II.6 [17] and *Enn.* VI.1–3 [42–44], both as regards the treatment of quality and also, more generally, in the nature and the spirit of Plotinus' writing. In *Enn.* II.6 [17] Plotinus raises questions about what is substance and quality and tries ways to address them, but it remains unclear to what extent he commits himself to these answers. In *Enn.* VI.1–3 [42–44] on the other hand Plotinus is much more assertive and in *Enn.* VI.2 [43] 14 he appears to modify the position he takes in *Enn.* II.6 [17] about quality. And the question is how, if at all, in *Enn.* VI.2–3 [43–44], where Plotinus speaks about quality in some detail, he is guided by his polemics against Aristotle, or, if this is his personal position on the matter, how it squares with his earlier position.

I will try to show that Plotinus does have a coherent theory about quality which is considerably different from that of Plato, Aristotle, and the Stoics, and is quite distinct in the history of philosophy. Plato in the *Theaetetus* (182 b) was the first to introduce the term 'quality', with the caution that this is a strange term, to signify what is affected (πάσχον) in a certain way by an active cause (ποιεῖον).¹ Aristotle on the other hand

* I have greatly benefited from a set of critical remarks by Riccardo Chiaradonna and from discussions I had with Pavlos Kalligas, who answered several of my questions also by making available to me his unpublished paper 'The Structure of appearances. Plotinus's doctrine of the constitution of sensible objects'. Yet neither of them is responsible for any shortcomings of my paper.

¹ See Burnyeat (1990) 311–312.

in the *Categories* groups quality with the kinds of predicates which are in a subject, as opposed to substance (οὐσία) which can never be in a subject (*Cat.* 2 1 a 20 ff.; 4 1 b 26; 5 3 a 7–21) and later on in the *Metaphysics* (V.14 1020 a 33–1021 b 25) he distinguishes between essential and accidental qualities, that is, between features qualifying the genus to which something belongs (*e.g.* man being a rational animal) and features qualifying the individual substance (*e.g.* Socrates being white), which count as accidents (cf. *Met.* VII.6 1031 b 22–28). Finally, the Stoics conceive of qualities as being corporeal, inseparable from the body they qualify.²

Plotinus' understanding of quality is, as we would expect, inspired by Plato, but it is also very much influenced by Aristotle's relevant views. The result is, as often with Plotinus, a highly personal doctrine about quality. Plotinus appears to believe that all features of sensible entities are nothing but qualities. He strongly opposes Aristotle's mature view (*Met.* VII esp. 8, 17) according to which the immanent Form (εἶδος), such as the Form of man in Socrates, is substance on the grounds that this is the cause of something being what it is.³ In Plotinus' view immanent Form is by no means the cause of something being what it is, but one quality among others of a sensible entity (ποιόν/ποιότης). That is, for Plotinus a big, white man has the qualities of bigness, whiteness, and humanity.

Such a view has its origins in Plato, yet urges an investigation into the sense in which Plotinus uses the term 'quality', because we would like to know why Plotinus takes the view that a sensible entity, *e.g.* a man, is considered not as being a man, that is, a substance, but as having the quality of a man, which turns out to be like all other qualities a man can have, such as big, white, or smart. To answer that, we first need to understand how Plotinus conceives of substance, because it is this that guides him to conceive of immanent Form as quality.⁴

Plotinus, we know, takes over from Plato the distinction between Forms which are immanent in matter, that is, in sensible entities, and transcendent Forms, which exist only in the intelligible realm, arguing that only the latter qualify as substance (οὐσία). One reason why Plotinus argues this is because he, following Plato, believes that only

² See Kupreeva (2003) 299–303.

³ For a philosophical exegesis of Aristotle's view, see Frede and Patzig (1987) I 36–57.

⁴ For a full and documented account of Plotinus' doctrine of substance, see Chiaradonna (2002) ch. 2.

intelligible transcendent entities, such as transcendent Forms, the Intellect, the Soul, all of which eventually are accounted by the presence of the One, have natures or essences. This means that for Plotinus only such entities are F or Y and can be truly predicated as such, while the so called sensible substances are never fully F or Y but they are always in the process of becoming F or Y. And the crucial reason for this is that only intelligible transcendent entities are not subject to change and corruption because they have no contact with matter, while sensible entities, because of their material nature, are always in the process of change and alteration. The upshot is that only intelligible transcendent entities are beings strictly speaking because only they subsist as such, while sensible entities are not beings in the same sense but rather belong to the realm of becoming. In the eyes of Plotinus, Aristotle is open to criticism because he uses the term 'substance' synonymously for both intelligible and sensible entities, while, Plotinus maintains, a real genus, such as substance, cannot include items which are prior and posterior to each other, as intelligible and sensible entities are.⁵

Plotinus thus argues that sensible entities are only homonymously substances (*Enn.* VI.3 [44] 6.3–8) and can be called thus only catachrestically (VI.3 [44] 2.1, 9.1). Sensible entities, he argues, are rather imitations, reflections or resemblances of the real substances, which are purely intelligible.⁶ In his view, a sensible F is not an F, or anything (τὸ εἶναι), but rather *like* an F (τοιόσδε/τοιόνδε, VI.3 [44] 9.30–33).⁷ In more concrete philosophical terms Plotinus maintains that sensible entities are an agglomeration of matter and perceptible qualities, such as size, colour, and shape (VI.3 [44] 8.20–21), which means that immanent Form is also one such quality.

It is not immediately obvious why it is so. It is actually quite puzzling that Plotinus does not distinguish between qualities which are subject to change, or accidental qualities, and qualities which make something the thing it is. Interestingly, Plotinus appeals to sense perception to support his view. He distinguishes sharply between being and sensible 'being', arguing that in the case of the latter it is sense-perception which guarantees its 'being', since a sensible substance is made up by the

⁵ This has been well emphasized by Hadot (1990) 126; Strange (1987) 965–970; Chiaradonna (2002) 56–59.

⁶ VI.3 [44] 9.27–31.

⁷ See also *Enn.* VI.3 [44] 15.24–31; 16.1–6. On the use of τοιόνδε in this context and its Platonic antecedents see Chiaradonna (2004a) 21.

differences which can be perceived by the senses. The following passage is significant in this regard.

For this sensible substance is not simply being, but is perceived by sense, being this whole world of ours; since we maintained that its apparent existence (δοκοῦσαν ὑπόστασιν) was a congress of perceptibles (σύνοδον τῶν πρὸς αἴσθησιν), and the guarantee of their being comes from sense-perception. But if the composition has no limits, one should divide according to the species-forms (εἶδη) of living things, the bodily species (εἶδος) of man, for instance. For this, a species-form of this kind, is a quality of body, and is not out of place to divide by qualities (VI.3 [44] 10.14–20; Armstrong's trans.).

The passage clearly shows that for Plotinus sensible entities are not beings strictly speaking exactly because they are made up of perceptible qualities, which means that the criterion for their existence is perception, not reason. What is perceived is subject to change, which is the case with sensible entities. Yet the passage also shows that Plotinus singles out immanent Form as the quality by means of which we recognize sensible entities, especially living ones, as such, *e.g.* as man or horse. The idea apparently is that we come to know reality (or, in Plotinus' terms, 'divide reality') through Forms of X or Y, rather than through shapes, sizes, colours, or other such qualities.

This seems to be right. When we encounter Socrates, we do not see something short, ugly, and moving, but a man who is short, ugly, and moving. This, however, seems to suggest that immanent Form plays a more important role in the perception of reality than any other feature of a sensible entity; it is the immanent Form which helps us identify something as such. If this is so, one may be tempted to argue against Plotinus that the immanent Form should not be considered as merely one of the qualities of a sensible entity, such as colour and size, but it should enjoy a more elevated ontological status, since it is through this that we recognize something as such.

Plotinus appears to reply that it is the transcendent Forms which account for something coming into being and hence also for the existence of any sensible entity, while immanent Forms are derivative entities which come about through the activity of the transcendent Forms.⁸ This alone is sufficient to establish (for a Platonist at least) that immanent

⁸ See V.9 [5] 5.17–19 and the comments of Chiaradonna (2002) 60–61.

Forms are ontologically inferior to transcendent ones, because, as Plotinus standardly maintains, a generated entity is of an inferior genus to that of its cause.⁹ For Plotinus then immanent Forms are bound to be qualities, since their cause of existence is substance. Yet things are more complex, because Plotinus maintains that transcendent Forms do not act directly on matter, that is, they do not bring about immanent Forms directly, but rather operate through intermediate intelligible entities, the λόγοι. It is the λόγοι which inform matter so that the sensible entity comes into being as a sum of such qualities.¹⁰ One reason why Plotinus postulates this process is because he, following Plato and Numenius, maintains that matter is disordered and ‘taints’ whatever comes in contact with it, so the intelligible entities should be kept as distanced as possible from matter (ἐν ὕλῃ ὁ λόγος χεῖρων, VI.3 [44] 9.33–34). It actually seems that the λόγοι stem from the world-soul, not from the transcendent Forms themselves,¹¹ in which case the distance between the transcendent Forms and the sensible entities is as wide as possible. There are two reasons then accounting for the low ontological status of the immanent Forms in Plotinus, first their generation through substances, secondly their contact with matter.

A critic can grant all this but still argue against Plotinus that the immanent Form differs from all other qualities of a sensible entity, in that the immanent Form, though derivative from the λόγοι, which ultimately make something what it is, *e.g.* human, has a special role in the causal process of something becoming X or Y. That is, the critic would continue, the immanent Form is the ultimate link in the causal chain of the coming to be of a sensible entity, which involves the world-soul, the λόγοι, through which the immanent Forms come into being.

Plotinus does not seem to deny this. He rather appears to maintain that the immanent Form accounts for something becoming F, while it is the transcendent Form which accounts for being F (VI.3 [44] 2.1–4). But if this is so, then the immanent Form, one may insist on objecting, should not be ranked together with all other qualities observable in a

⁹ For a discussion of this Plotinian principle see Chiaradonna (2002) 280–281.

¹⁰ See II.7 [37] 3.6–14, III.8 [30] 2.19–34, VI.3 [44] 15.28–31.

¹¹ See IV.3 [37] 10.29–42. It is Pavlos Kalligas who has drawn my attention to this passage in his unpublished paper ‘The Structure of appearances. Plotinus’ doctrine of the constitution of sensible objects’, in which he discusses the role of λόγοι in some detail.

sensible entity but rather should enjoy a special status, since it is in virtue of that Form that something, according to Plotinus, becomes F.

The above objection is also supported by the following consideration. Plotinus argues in *Enn.* II.4 [12] (*On Matter*) that it is the Form which brings along with it qualities such as size, shape, and colour and thus informs matter (II.4 [12] 8.23–28). That is, if something is to become an elephant, the Form of the elephant brings with it also the suitable size, shape, color and so on. One may argue that Plotinus refers to the transcendent Form here. But this does not seem to be true, because, as I said above, the transcendent Form does not come in any contact with matter, which is the subject of II.4 [12]. This receives some confirmation from statements like the following: ‘when the form comes to the matter it brings everything with it; the form has (ἔχει) everything, the size and all that goes with and is caused by the formative principle’ (II.4 [12] 8.24–26; Armstrong’s trans.). The fact that the Form enters in matter is a clear indication that Plotinus refers to the immanent Form here. Besides, only immanent Forms can relate to size. In the present context Plotinus advances the idea that matter is organized so that it becomes something through a Form which is immanent in it. This is in accordance with Plotinus’ general view I mentioned above that matter is organized when it receives qualities, such as shape, size, and density, through the activity of the λόγοι. The upshot is that immanent Forms do play a significant role in the coming to being of something.

It seems then that we have both epistemological and metaphysical reasons to be reserved against Plotinus’ idea that the immanent Form is a mere quality. It is actually Plotinus himself who provides us with reasons to believe that immanent Forms enjoy a special ontological status. What is worse, Plotinus can be accused of being inconsistent in holding that the immanent Form is a mere quality like all other qualities, and at the same time maintain that this is what makes us recognize a thing as such, *e.g.* a man. This would mean that Plotinus’ ontology is at odds with his epistemology. In the following section I will try to show that this charge does not apply to Plotinus.

II

Before coming to Plotinus, it is useful to remember that such a question of consistency applies to philosophers of all ages—sometimes is called

the integration challenge.¹² The issue is basically the following. Ontology and epistemology must be reconciled in such a way that epistemological explanations do not assume entities excluded by a certain ontological theory, and ontology should be constructed in such a way so that an adequate epistemology can be drawn from it.

Plato is clearly conscious of this challenge. Plato's Forms are initially introduced in order to allow for epistemological accounts of a certain kind, that is accounts explaining why we recognize F's as such, that is, as we name them, *e.g.* tree, man, or piety. When we recognize a tree as such, this is not in virtue of its colour or its size, but rather in virtue of something that makes the size and the colour, the size and the colour of a tree. Plato calls this 'the Form of the tree'. Yet for Plato colour and size also have a being, since they also exist in the tree. Plato does not seem to distinguish between the being of size, such as big or large, and the being of a tree. For Plato a sensible F participates both in the Form of tree as well as in the Form of largeness, greenness, and so on. Plato, however, appears to maintain that it is the Forms which make something the thing it is and also make us recognize it as such, which means that the epistemological role of Forms is in line with their ontological role. For, I take it, Plato's idea is not that we are made in such a way so that we are able to know the things of the world in virtue of Forms, but rather that the world is made in such a way so that the Forms play the role they do in human cognition. And this is because the Forms are the entities which make things being what they are, that is, the Forms are the essences of things. For Plato then there is some correspondence between how the world is and how we perceive it. This leads Plato to suggest in the *Republic*, for instance, that true knowledge cannot be obtained without reference to the Forms. Plato's epistemology may seem to require a distinction between substances and qualities, which Aristotle later makes, since, as I said, for the most part we do not perceive merely properties but things having properties. It is this Aristotelian suggestion that Plotinus denies, arguing that sensible entities only appear to be F or Y, but they are neither F nor Y.

The above simplistic account of Plato's theory of Forms aims only to show that Plato is sensitive to the integration of epistemology and ontology, and so must be also Plotinus who tries to defend Plato's

¹² Peacocke (1998) 349–375.

philosophy—as he understands it. We must bear in mind, however, that neither of them appears to distinguish between these branches of philosophy in the way we do today. Yet in both Plato and Plotinus the questions of what kind of being something is and how can be known are indeed addressed as distinct problems and do bear on each other. In dialogues like the *Phaedo* and the *Republic*, for instance, the discussion about how things can be known is inextricably connected with the discussion about kinds and ways of being. The objections against the Forms presented in the *Parmenides*, on the other hand, such as the objection whether we should assume Forms for everything we perceive including worthless things like hair and dirt, show that there is awareness that epistemological and metaphysical questions should be treated jointly.

The epistemological and ontological role of the Forms was an issue for Platonists long before Plotinus. The first who attempted to reconstruct a system of Platonic philosophy, Antiochus, appears to have been seriously confronted with this problem. Antiochus tends to interpret Platonic Forms as equivalent to the Stoic *notiones* and *rationes* of the mind (Cic., *Acad.* I.31–32), a move which suggests that one role he attributes to Plato's Forms is that of concepts. Yet Antiochus also appears to maintain that Plato's Forms are both transcendent and immanent (*Acad.* I.30, 33), which leaves open to discussion the question of how he actually squared the Platonic theory of Forms with the Stoic common notions.¹³ Antiochus' theory gives rise to two related questions, first how transcendent Forms become immanent in sensible entities and also in human minds, a question non applicable to the Stoics who rejected the existence of transcendent Forms and also of a priori knowledge, and secondly whether Forms account only for the essences of sensible entities or for all their features.

Those who rejected Stoic epistemology, like Plutarch, also encountered difficulties in integrating the epistemology with the metaphysics of the Forms, though of a different kind. One such difficulty is how the cognitive role of the Forms (when, for instance, a man knows different kinds of beings through them) squares with the metaphysical role that the Forms play in the use the Demiurge in the *Timaeus* makes of them in order to bring the world about. It is open to discussion whether in the case of the Demiurge the Forms play a cognitive role, as they do

¹³ On Antiochus' view of Plato's Forms and his epistemology, see Karamanolis (2006) 60–70.

in humans, or only a metaphysical role, that is, they operate only as models for everything that comes into being. Platonists in late antiquity are divided into those who maintain that Forms have a cognitive role for both humans and God, and those who believe that Forms are cognitive for humans only.¹⁴ While for the former the Forms exist only in the divine intellect,¹⁵ for the latter they exist separately and constitute a distinct principle.¹⁶ A way out of this the one that Plotinus develops. Plotinus maintains that the Forms exist outside the demiurgic mind but in the cosmic soul. Porphyry would abandon Plotinus' view adopting a position closer to that of Amelius, as he would identify the demiurge with the cosmic soul.¹⁷

In the case of Plotinus the alleged tension between his epistemology and metaphysics can be expressed as follows. Plotinus maintains that the immanent Form is a mere quality of a sensible entity like all other qualities, such as size and shape, but he also appears to suggest that the immanent Form plays a significant role in our perception of sensible reality and also that it brings along with it qualities like size and shape. The first, epistemological, question which arises is this: if immanent Form is just a quality and sensible entities a mere conglomeration of matter and qualities, as Plotinus argues, how do we perceive sensible things as they are? Why do we not perceive them as a sum of qualities, that is, as clusters of colours, sizes and shapes, but instead we perceive them as Fs and Ys? And how are we able to name them F or Y unless we recognize their Form as an essential feature, *i.e.* as a feature that makes them the thing they are? If immanent Forms do play a significant role in our perception of sensible reality, then how justified is Plotinus in arguing that immanent Form is a quality and the individual Fs or Ys are a mere conglomeration of matter and qualities (VI.3 [44] 8.19–23)?

Plotinus appears to have a coherent and elaborate answer to the above questions. Following Plato, he contends that man can perceive things as they are, and inspired by the *Theaetetus*, he argues that perception cannot take place without reason,¹⁸ which practically means that perception

¹⁴ See Armstrong (1960) and Karamanolis (2006) 32–33.

¹⁵ This was notoriously the view held in the circle of Plotinus by people like Amelius, Porphy., *VPlot.* 18; cf. V.5 [32]. Porphyry also falls in this category. See n. 17.

¹⁶ This is the case with Atticus and most probably also Plutarch.

¹⁷ He notoriously maintained that the Forms exist in the demiurgic intellect, going as far as to identify the two (Procl., *In Tim.* II 1.306.32–307.4, II 1.322.1–7, II 1.431.20–23).

¹⁸ *Theaet.* 186 a–187 a; cf. Alcin., *Didasc.* 4 154.10–156.23.

amounts to judgment (κρίσις).¹⁹ The question, of course, is what the judgment is about. If sensible entities are composite of matter and Form, εἶδος,²⁰ as Plotinus argues, then one would be tempted to maintain that the judgment must be about the Form of a sensible entity. That is, the judgment 'this is a tree' is a judgment about the Form of the perceived entity, as this is the crucial element for knowing it as such. Plotinus, however, opposes this idea. According to Plotinus sensible entities cannot be known as such, because there is nothing in them to guarantee stability and also meaning. What we perceive through our sense organs is a bunch of images which is not informative about what something is (V.5 [32] 1.12–19). Reason is needed for the reconstruction of what is the object which gives rise to sense affections. And for Plotinus reason operates by resorting to transcendent entities.²¹ Only they, which are characterized by stability, can bring about stability and meaning, which means that only they can convey knowledge. Plotinus maintains then that every time we come to know this or that sensible entity, this happens because our mind gains access to transcendent intelligible entities which are the ultimate causes of the sense impressions. Such intelligible entities are not the transcendent Forms but rather the λόγοι, of which the perceptible qualities are manifestations.²² According to Plotinus 'the soul's power of perception need not be of sensibles but rather it must be apprehensive of representations produced by perception in the organism' (I.1 [53] 7.9–11).²³ If this is so, then for Plotinus the immanent Form does not play any special role in the process of knowing a sensible entity.

This account seems to me to leave room for the following question. We can grant to Plotinus that man's mind comes to know a sensible entity through reference to intelligible, transcendent entities, but how can one do that without being guided through the Form which is immanent in matter? One could argue that it is the immanent Form which our sense organs perceive and it is through this that we are guided to the intelligibles. In this case then the immanent Form does play a special role in the way we come to know reality and should be distinguished

¹⁹ See III.6 [26] 1.1–7.

²⁰ VI.3 [44] 8.7–9.

²¹ See Emilsson (1996).

²² Emilsson (1988) 120.

²³ On this passage see the comments on Emilsson (1988) 114–116.

from the other qualities of a sensible substance like shape and size, even if one rejects Aristotle's doctrine of substance, as Plotinus does.

This is not a puzzling question for Plotinus who appears to make a sharp distinction between sensation and perception. Sensory affections like vision, hearing, or touch, he argues, are merely affections (πάθη). Perception on the other hand is a way to cognize, to understand reality, and for this to happen sensing is only the initial stage.²⁴ Affections become Forms (IV.4 [28] 23.29–32) and perception is a kind of awareness (ἀντίληψις) of these Forms which pre-exist in the soul²⁵ and are intermediate between transcendent and immanent Forms. It is these Forms the ones which account for perception,²⁶ as it is through them that we come to recognize the various sensible qualities as such.²⁷ This is a process within the soul which has little to do with external reality, as it is basically an act of thinking, a process of reflection of the transcendent reality (I.1 [53] 7.9–16). Through the process of awareness of the Forms, the soul, which according to Plotinus (IV.8 [6] 8) never fully descends in the sensible world, becomes united with them (VI.5 [23] 7.1–8) and hence connects man with the intelligible world and more precisely with the Intellect, which accounts for all thinking. If for Plotinus the human soul perceives through the Forms in an act of thinking, which is ultimately possible thanks to our relation to the Intellect, then the Form in matter does not play any special role in human perception. Of course, one can insist that the Forms in the soul are stimulated by the immanent Forms, but Plotinus would respond that perception is an intellectual process which is carried out entirely in the human soul through the Forms, and in this the immanent Forms, like all external stimuli, play hardly any role.

If this is so, then whatever objections one may have against Plotinus' theory of cognition, that of inconsistency with his own ontology, as

²⁴ See III.6 [26] 1.1–3 and the comments of Fleet (1995) 72–76; Kalligas (2004) 461–463. Cf. IV.3 [27] 3.21–25. As Fleet rightly points out, Plotinus is inspired by the *Theat.* 186 b 2 f., where Socrates argues that affections of sensible qualities (παθήματα) reach the soul through the body but the soul then employs reasoning (συλλογισμός) in order to make a judgment about them.

²⁵ These forms are called τύποι (IV.3 [28] 26.27–29; IV.6 [41] 1.19–40; V.3 [49] 2.10; 3.1–2) or φαντάσματα (IV.3 [27] 31.11; V.3 [49] 2.8). Plotinus makes clear that these τύποι are intellective, not physical, as the Stoics maintained, that is, they pertain to the intellect (νοητά; I.1 [53] 7.9–11; cf. also IV.3 [27] 26.29–32, V.3 [49] 3.1–2).

²⁶ See IV.3 [27] 30 and the comments of Emilsson (1988) 132–137. See also Gerson (1994) 164–170.

²⁷ See Chiaradonna (2005b) 36–41.

regards the role of immanent Forms in particular, is ruled out. If a sensible entity is known through the mind's access to transcendent Forms, this does not make it necessary to raise the status of the immanent Form to that of substance. Quite the contrary is the case.

III

So far so good, but there are also metaphysical reasons against the idea that the immanent Form is a quality like all other qualities in a sensible entity, which can be characterized as accidental, that is, they are either subject to change or happen to occur but have nothing to do with the kind of being that something is, *e.g.* a man. As has been seen above, Plotinus himself appears to maintain that the immanent Form brings about the qualities necessary for something becoming X. This seems to suggest that the Form of a man should not be equalled with qualities, like big, white, clever, or dirty, which are accidental for being a man.

Aristotle was the first to distinguish between substantial and accidental differences. As a substantial difference he appears to consider a feature which is characteristic of a certain genus, the characteristic of man being biped animal, for instance. Aristotle counts as accidental differences, on the other hand, individual differences which are not characteristic of a genus, like differences in temperature, in colour, in weight of bodies, or virtue and vice (*Met.* V.14 1020 a 33–1021 b 25). Aristotle considers both substantial and accidental features to be qualities, yet in a different sense. Quality in the first sense is a quality of the genus in which something belongs, *e.g.* animal, but not a quality of the species which qualifies, *e.g.* man, in the case of the being biped feature (*Met.* VII.14 1039 b 2–7). Such a quality is not subject to change insofar as genera on the whole are not subject to change. Quality in the second sense, however, qualifies an individual F and can be subject to change; a man's colour does not change but temperature and weight do. In the scheme of the categories presented in the *Categories* quality in the first sense is not classified under quality but rather as a difference of the species, that is, as a predicate of substance (*Cat.* 5 3 a 33–b 9). The category of quality is rather reserved for accidental qualities which characterize individuals.

Later generations systematized this distinction as a distinction between qualities which complement substance and qualities which do not, that

is, accidental qualities.²⁸ The problem which arises here is that according to Aristotle substantial qualities are not in a subject, because they constitute the subject, but on the other hand they are not said of a subject either, because from the Aristotelian point of view this is at odds with his own conception of substance. As regards primary substance, which is confined to individuals, this is not the case because substantial differences concern only genera, which in the *Categories* are considered as secondary substances. But even as regards secondary substances, which are universals, substantial differences are not said of a subject either, because in their case all features are part of the universal they qualify and none of them is an accident. In the case of man, for instance, being biped, rational, having a head are not accidents.

This poses a problem which attracted the attention of both Plotinus and Porphyry. Attention to such a problem is indicative of their strong interest in Aristotle's ontology. This interest is driven first by the fact that Aristotle both in the *Categories* and in *Metaphysics* VII presents a theory of substance which powerfully contradicts that of Plato, and secondly by the fact that Aristotle has a systematic theory about quality which Plato lacks. Plotinus and Porphyry differ in their attitude to the problem of substantial qualities, and this is telling about their different appreciation of Aristotle's ontology as a whole. Porphyry includes substantial qualities (οὐσιώδεις ποιότητες) in his definition of substance, which suggests that for him these qualities are intermediaries between substance and quality but side more with substance.²⁹ Plotinus on the other hand does use the term οὐσιώδης ποιότης (VI.3 [44] 14.31) but only in the sense of a quality pertaining to a substance (*i.e.* a transcendent entity), not in the sense of a quality which complements a sensible entity. Plotinus maintains that the so-called substantial qualities are not part of substance and should not be included in the definition of substance, as Porphyry would argue later, but rather that they are in subject (VI.3 [44] 5.24–30). This means that Plotinus opposes Aristotle's distinction between two kinds of qualities.

Plotinus rejects the difference between substantial and accidental qualities on twofold grounds: first, because he does not accept the view that sensible entities are substances; secondly, because he seems to believe

²⁸ See Lucius *apud* Simp., *In Cat.* 48.1–11, Dex., *In Cat.* 23.17–24.1 and the comments of Kalligas (1997b) 292–295.

²⁹ Porph., *In Cat.* 94.29–96.1, Simp., *In Cat.* 78.20–24, 98.1–35.

that there is not room for an intermediary ontological entity between substance and quality, and since substance cannot produce substance but only an ontologically lower entity, immanent Form is bound to be a quality.³⁰ What underlies all this is Plotinus' understanding of substance as a simple and unified entity. If one accepts Aristotle's view that there are substantial qualities which complement substance, this amounts to suggesting that substance is composite. Plotinus agrees that sensible entities are composite, as Aristotle himself maintains. He actually argues that sensible substances can be seen as composite in several ways, as composite of matter and form, as composite of parts, as composite of qualities and matter.³¹ Yet for Plotinus matter is not something real but a non-being, a function rather than an entity, because it lacks characteristic features, being something indefinite (II.4 [12] 13.30–32). This means that matter does not contribute anything to the constitution of a sensible entity.³² This in turn means that for Plotinus a sensible entity is composite strictly speaking only insofar as it is constituted by qualities. Matter accommodates these qualities (*e.g.* size, shape, colour) but does not possess them.³³ It is in this sense that Plotinus considers sensible entities as being composite. Given their composite character, Plotinus refrains from considering them as substances. Qualities, however, can be part of composites, *i.e.* composite sensible entities.

The above account gives the impression that Plotinus does not distinguish between the kind of quality that immanent Form is and all other qualities which we, following Aristotle, would consider as accidental. Yet this is not very precise. Plotinus does distinguish between two kinds of qualities in *Enn.* II.6 [17], a short treatise dedicated to the distinction between substance and quality.³⁴ As I already said in the beginning of this paper, one problem with this difficult, if not obscure, treatise lies in its dialectical or even aporetic character. Plotinus tries different views about the question of how substance should be distinguished from quality, but remains unclear if he eventually commits himself to one.

³⁰ See the comments of Rutten (1961) 71–82.

³¹ See Wagner (1996) 130–134.

³² See Wagner (1996) 134. See also O'Brien (1999). Cf. II.4 [12] 1.6–12, II.4 [12] 16.25–28, II.7 [37] 3.

³³ See II.4 [12] 13.30–32, III.6 [26] 17.1–12. I am grateful to Pavlos Kalligas who has drawn my attention to these passages.

³⁴ For a discussion of the distinction between substance and quality in *Enn.* II.6 [17], see Chiaradonna (forthc.) and below.

Let us first see what the distinction precisely is before we decide if Plotinus is committed to it.

The first distinction Plotinus makes in *Enn.* II.6 [17] is between intelligible and sensible qualities. The former, he says, are nothing but activities which act on matter in such a way that they bring about sensible qualities (II.6 [17] 3.3–9). Intelligible qualities are the λόγοι, the intermediate intelligible entities, I mentioned above.³⁵ Sensible qualities are invariably considered to be manifestations or reflections of these intelligible qualities, a view supported also by the evidence of VI.3 [44] 8.

This is all very complex and several questions arise. The first is the following. How can the term ‘quality’ apply both to the intelligible and the sensible realm? Plotinus, we remember, argued against Aristotle that the term ‘substance’ cannot be used for both the intelligible and the sensible realm but homonymously. What is more, Plotinus uses the term ‘quality’ in a rather perplexing way. He appears to use the term ‘quality’ both in an active and in a passive sense. Intelligible qualities, the λόγοι, are qualities in an active sense, as they act in such a way as to qualify sensible entities. Sensible qualities on the other hand are the result of the activity of the intelligible qualities, that is, they are affections of matter.

Plotinus’ reply is that he uses the term ‘quality’ only homonymously for the intelligible realm. Intelligible qualities, he argues, are ἐνέργειαι strictly speaking (VI.1 [42] 10.20–24).³⁶ True qualities are only those of the sensible realm. Plotinus consistently maintains that qualities pertain to bodies, they are incorporeal affections (ἄσώματα πάθη) accommodated in matter (II.7 [37] 2.24–28). And this happens as the result of the mediated activity of transcendent entities, the λόγοι, on matter, which thus becomes qualified, that is, it becomes something definite (III.8 [30] 2.19–25).

³⁵ See II.6 [17] 2.17–20, VI.2 [43] 5.10–14, VI.3 [44] 15.7–38.

³⁶ ‘But the specific differences which distinguish substances in relation to each other are qualities in an equivocal sense, being rather activities and rational forming principles, or parts of forming principles, making clear what the thing is none the less even if they seem to declare that the substance is of a specific quality. And the qualities in the strict and proper sense, according to which beings are qualified, which we say are powers, would in fact in their general character be a sort of forming principles and, in a sense, shapes, beauties, and uglinesses in the soul and in the body in the same way’ (VI.1 [42] 10.20–26; Armstrong’s trans.). Cf. VI.1 [42] 11.16–21.

Now, Plotinus appears to distinguish two kinds of qualities in the sensible realm, qualities which complement a so called sensible substance and qualities which are merely accidental properties. In the case of fire, for instance, Plotinus argues, the heat of the fire complements what is fire, and in this sense it is part of the substance of fire (μέρος οὐσίας II.6 [17] 3.13). If you take the heat in any other sensible entity, say a glass of milk, then, Plotinus suggests, this is not any longer part or shape of substance (μορφὴν οὐσίας II.6 [17] 3.21) but only a shadow, an image of it, and this, he maintains, is a quality strictly speaking (II.6 [17] 3.14–20). Plotinus continues as follows.

All, then, which is incidental (συμβέβηκε) and not activities and forms of substance, giving definite shapes, is qualitative (ποιὰ ταῦτα). So, for substance, states and other dispositions of the underlying realities are to be called qualities, but their archetypal models, in which they exist primarily, are the activities of those intelligible realities. And in this way one and the same thing does not come to be quality and not quality, but that which is isolated from substance is qualitative, and that which is with substance is substance or form or activity; for nothing is the same in itself and when it is alone in something else and has fallen away from being form and activity. That, then, which is never a form of something else but always an incidental attribute, this and only this is pure quality (II.6 [17] 3.20–29; Armstrong's trans.).

The Aristotelian terminology is striking in this passage. Plotinus uses it on purpose in order to make a distinction of qualities which is different from Aristotle's distinction between accidental and substantial qualities. Plotinus rather distinguishes between accidental and non-accidental qualities. The former are accidents (συμβεβηκότα), while the latter are constitutive of a sensible entity (ὅσαι λέγονται συμπληροῦν οὐσίας, II.6 [17] 2.19–21). Non-accidental qualities mark off an entity as such, say fire or man, contributing to them what is their characteristic feature, heat and reason respectively. Such qualities are the result of the activity of the λόγοι.³⁷ When Plotinus argues that matter becomes qualified through the activity of the λόγοι (III.8 [30] 2.19–25) he refers to such non-accidental qualities which he also calls properties (ιδιότητες, II.6 [17] 3.4, 10). Accidental qualities on the other hand differentiate entities of the same kind. As Plotinus says earlier in the same treatise, these qualities contain what is extra and comes after substance, such as virtues and vices, ugliness and beauty (II.6 [17] 2.25–27). The source

³⁷ II.6 [17] 2.20–22, 3.10–14, III.8 [30] 2.27–30.

of such accidental qualities is not specified, but clearly their source is not the λόγοι. Plotinus argues that only accidental qualities are qualities strictly speaking, while non accidental qualities are parts of the sensible entity (II.6 [17] 3.24–28).

This theory, though different from that of Aristotle, is very close to Aristotle's distinction between substantial and accidental qualities. Plotinus does not call the qualities which come into being through the intelligible, transcendent λόγοι 'substantial' because he does not accept the existence of sensible substances in the first place, yet he preserves the Aristotelian distinction of qualities.

The problem now is that in *Enn.* VI.2 [43] 14 Plotinus explicitly denies that there are qualities which complement substances. I quote:

We did think right (ἄξιόϋμεν) to say elsewhere that the elements which contributed to the essential completion of substance were qualities only in name, but those which came from outside subsequent to substance were qualities [in the proper sense], and that those which came after them were already passive affections. But now we are saying that the elements of particular substance make no contribution at all to the completion of substance as such;³⁸ for there is no substantial addition to the substance of man by reason of his being man; but he is substance at a higher level, before coming to the differentiation, as is also the living being before coming to the 'reasonable' (VI.2 [43] 14.14–22; Armstrong's trans.).

Plotinus' reference to his difference from his previous position, apparently the one held at *Enn.* II.6 [17], could not be clearer. To begin with, Plotinus makes clear that at II.6 [17] he did commit himself to the position I ascribed to him above, namely that there are two kinds of qualities, one of which contributes to the completion of sensible entities and one which does not, the accidental qualities. The verb ἄξιόϋμεν is a verb of commitment to a view.³⁹ If this is so, then the problem becomes more accentuated. Does Plotinus change his mind? Is his new position incompatible with his previous one?

Scholars have been divided. K. Corrigan has argued that in *Enn.* VI.2 [43] Plotinus takes a different point of view without changing his thinking about substance and quality.⁴⁰ But this rests on a certain interpretation of VI.1–3 [42–44] that Corrigan takes, according to

³⁸ νῦν δὲ λέγομεν οὐκ οὐσίας ὅλως εἶναι συμπληρωτικά τὰ τῆς τινὸς οὐσίας.

³⁹ See LSJ, *s.v.*, sense IV.2. Plotinus often uses the term to say that this is what he thinks is right. See Sleeman and Pollet (1980), *s.v.*, d. Cf. I.2 [19] 1.40, I.4 [46] 6.21.

⁴⁰ Cf. Corrigan (1996a) 312–314.

which Plotinus does not reject Aristotle's theory of substance but he modifies it from a Platonist point of view. This does not seem to me a charitable interpretation of VI.1–3 [42–44].⁴¹ As I have tried to show elsewhere,⁴² Plotinus does reject Aristotle's theory of substance in *Enn.* VI.1–3 [42–44] even as regards the sensible world. If this is so, then we have to admit that Plotinus does change his mind and takes a different position from that maintained in *Enn.* II.6 [17]. This is what Riccardo Chiaradonna has argued. In his view, Plotinus revises his earlier position, in which he adopted a more Peripatetic conceptual apparatus, to a position more strictly Platonist, which is understandable given his confrontation with Aristotle's doctrine.⁴³ In a more recent contribution to the question Chiaradonna appears to qualify this view maintaining that Plotinus' later position is a development of his earlier one.⁴⁴ This seems to me to be going in the right direction. Plotinus does take in *Enn.* VI.1–3 [42–44] a position different from that outlined in *Enn.* II.6 [17], but the two are not incompatible. On the contrary, they can well be part of a single theory.

Let me explain. As I have already said, Plotinus is committed to the view that only transcendent entities qualify as substances because only they have natures or essences, which means that only they have identities (τὶ εἶναι). Sensible entities do not have essences, so they are not substances with identities X or Y but they rather are *like* substances (ποιά). A sensible entity is not a man or a tree but *like* a man or a tree (VI.3 [44] 15.27–31). Sensible entities then consist in qualities, ποιότητες in a very specific sense, namely in the sense that they resemble real substances. This is because real substances, which are transcendent entities, bring about such resemblances of themselves through their activity on matter. Plotinus finds the term ποιότης suitable for conveying the sense of something resembling a substance. In this sense ποιότης applies especially to immanent Form. As I have argued above, Plotinus maintains that this Form has a constitutive role in the becoming of X, such that a number of essential features of X are determined by it. If X is an elephant, it is bound to have a certain size, shape, and colour. But of course, it may also be a particularly big, tall, heavy, or aggressive

⁴¹ Good arguments against such an interpretation have been advanced by Chiaradonna (2002). For a brief exposition of Plotinus' position, see Karamanolis (2006) 234–236.

⁴² See n. 41 above.

⁴³ Chiaradonna (2002) 140–143.

⁴⁴ Chiaradonna (forthc.c).

elephant. These are also qualities, but they are not what make X becoming *like* a real substance, *i.e.* an elephant. They are rather accidental qualities, as they do not play a role in something becoming X. Such qualities are not accounted for by the λόγοι which inform the matter so that something comes into being. And the reason is that they do not account in any way for the x being the kind of thing it is.

Plotinus makes this distinction also in *Enn.* VI.1 [42] 10, when he distinguishes between the rationality of man and man's ability to box (VI.1 [42] 10.16–17). In this context Plotinus again distinguishes between qualities strictly speaking (κυρίως), namely what I call accidental qualities which do not contribute to the coming to being of a sensible entity (VI.1 [42] 10.53–56), and qualities homonymously (ὁμωνύμως) speaking, which contribute to something being a thing of a certain sort (ποιᾶν οὐσίαν) and are the result of the activity of λόγοι (VI.1 [42] 10.20–27). This appears to square with what Plotinus says in *Enn.* II.6 [17] 3, when he argues that the heat of the fire should not be considered as its quality but as its form or activity, unless we use the term quality in a different sense, that is, in the homonymous sense mentioned above.⁴⁵

Plotinus appears to operate with a narrow and wide sense of quality. In a wide sense all features of a sensible x are qualities. In a narrow and strict sense, however, only accidental features are qualities, while immanent Forms, as the results of the activity of λόγοι, contribute to the coming to being of something, man or elephant. Yet immanent Forms remain mere resemblances of the λόγοι, they are like them (ποιᾶν οὐσίαι), and in this sense ποιότητες. Depending on the aim of his treatises, Plotinus changes his focus. In *Enn.* II.6 [17] he uses quality for two different kinds of features, namely the imprints of the activity of the transcendent λόγοι on the sensible world which make something becoming X, and accidents which differentiate Xs. In *Enn.* VI.1–3 [42–44], however, Plotinus wants to show that immanent Forms, which fall in the first class of features, do not qualify as substances but as qualities, because they are derivative from intelligible entities and because of their instantiation in matter.

Such differences of focus, however, do not speak against the existence of a coherent theory of quality in Plotinus. From the above it emerges that for Plotinus 'quality' is a class of ontological entities pertaining

⁴⁵ II.6 [17] 3.14–20. See the comments of Kalligas (1997b) 303.

to the sensible world, to bodies; lack of qualities (ἄποιος) is indicative that something is not a body (I.4 [46] 8.2). Quality indicates an incorporeal (II.7 [37] 2.29, VI.3 [44] 16.18–19), an affection (πάθος; VI.3 [44] 16.39) of a body caused by the activity of an intelligible entity. But given Plotinus' views about the hierarchy of reality, quality is not merely an ontological class, as it is for Aristotle, but also a derogatory term, as it points to a lower reality of entities. A quality amounts to the degraded existence of a genus, be it intelligible substance or intelligible quality.⁴⁶ An individual man, Socrates, argues Plotinus, becomes a kind of human (τοιόσδε) through the participation to the Form of man (μεταλήψει ἀνθρώπου ὁ τις ἄνθρωπος, VI.3 [44] 9.29). The sensible Socrates, argues Plotinus, is not Socrates strictly speaking but colour and configurations of those parts which are imitations of real ones involved in his forming principle (VI.3 [44] 15.34–36). In other words, the category of quality is the mark of failure of a sensible entity to be this or that.

IV

One question which arises from the above is how the qualities which characterize sensible entities can ultimately constitute entities with some unity, like the ones we perceive around us. This question becomes particularly serious if we remember that for Plotinus matter is a non-being, which means that it is the qualities that constitute an entity so that this is of a certain sort X or Y and with certain features. The question is what guarantees the unity of such an entity.

As I have already said, Plotinus makes clear that immanent Forms which constitute a sensible entity derive from transcendent forming principles (VI.2 [43] 5.1–5), the λόγοι.⁴⁷ Yet not all characteristics of sensible entities have such a forming principle. Individual differences of entities of the same kind do not appear to have their origins in similar forming principles. Plotinus wonders whether such accidental characteristics are due to imperfect λόγοι (VI.1 [42] 10.60, 11.5), but

⁴⁶ Cf. VI.3 [44] 1.6 and the analysis of Chiaradonna (2002) 284–285.

⁴⁷ Plotinus is far from clear as regards the way the intelligible entities act as formative principles in the sensible world. He notoriously uses a metaphorical language which is far from being precise, as he himself admits (VI.5 [23] 8.6–7) and he acknowledges the difficulty for more precision (8.9–10).

he does not affirm that. Reason, human size and shape belong to the first category when it comes to the coming to being of a man, this or that shape and size belong to the second. This is because the former account for something being the kind of thing it is, whereas the latter do not. What comes about is an agglomerate of qualities but not a random agglomerate of qualities. Rather, the entity that comes about is determined as to what it becomes. So there is a certain degree of unity which is due to the activity of an intelligible, transcendent principle.

Yet this is a low degree of unity. For Plotinus sensible reality lacks unity strictly speaking which is characteristic of substance, it is a realm of images, appearances, and this is why he insists that sensible entities are made up of qualities only. As has been seen, Plotinus uses the testimony of perception to strengthen this conclusion. However, the testimony of perception also suggests that certain unity exists, and Plotinus is not blind to that. If there were no unity, we would not be able to know the worlds around us. To account for that limited unity of sensible entities Plotinus distinguishes between the immanent Form as a quality in one sense and accidental qualities or qualities strictly speaking, which are like Aristotle's accidents. The former brings about a reflection of the unity of its cause, while the latter do not. The fact that sensible entities are subject to change and destruction is an indication of some degree of unity.

Plotinus wants to affirm such a relative unity of sensible entities not only for epistemological but also for metaphysical reasons. Plotinus wants to affirm a continuity between the intelligible and the sensible realm. This continuity is important also if he is to avoid some clash between his epistemology and his metaphysics. If man has the ability to know the sensible world and this happens through the mind's ascent to the transcendent Forms, there must be something that is knowable, and this is the result of the activity of the λόγοι. The unity they bestow on the sensible realm stems from the world-soul and is ultimately guaranteed by the Intellect. Plotinus argues that everything is present in the Intellect, which is the source of all life and activity (II.5 [25] 3.36–41).

V

I have argued that Plotinus has a coherent theory of quality, despite his differences in focus in his treatises. This theory is marked by Aristotelian influence, since Plotinus does make a distinction similar to that of

Aristotle's between substantial and accidental qualities, but he transforms the metaphysics of it precisely because Plotinus does not accept that the sensible world contains substances. As a result, we have a distinction between accidental and non-accidental qualities; the former are qualities strictly speaking, while the latter are not. Plotinus' theory is characteristic of the way Peripatetic influence shaped his philosophy. His theory of quality is unique in the history of philosophy, differing much from the relevant views of Plato, Aristotle, and the Stoics. Originality though does not guarantee longevity. Porphyry will modify Plotinus' theory considerably in favour of a more Aristotelian position.

AS WE ARE ALWAYS SPEAKING OF THEM AND USING
THEIR NAMES ON EVERY OCCASION
PLOTINUS, *ENN.* III.7 [45]: LANGUAGE, EXPERIENCE
AND THE PHILOSOPHY OF TIME IN NEOPLATONISM

Robbert M. van den Berg

I. *Introduction*

The discussion of ‘time’ in the *Cambridge Dictionary of Philosophy* starts by listing the classical definitions of time by Plato, Aristotle, Plotinus, and Augustine, only to conclude that all of these are unhelpfully circular because they employ temporal notions. Time, the reader is told, might be too basic to admit of definition, but fortunately modern philosophy has made some progress in understanding time ‘by analysis both of how we ordinarily experience and talk about time and of the deliverances of science’.¹

Even though the *Cambridge Dictionary* suggests otherwise, this approach to time is not something new. Ever since the Stoics and the Epicureans, ancient philosophers frequently appeal to concepts, often referred to as ‘common notions’, that are based on experience and that coincide with the meaning of words. Earlier generations of scholars had already noted that such common notions also figure in Plotinus’ celebrated discussion of eternity and time. However, since their interest was mainly in Plotinus’ doctrines about the nature of eternity and time, it is only now that there is a growing interest in Plotinus’ arguments for his views, that the role of these notions receives closer scrutiny. In this paper I will examine their role in the treatment of time by Plotinus and other Neoplatonists. The first part of the paper will argue that in Plotinus we should distinguish between two types of common notions, one based on our perception of the phenomena in the physical world, the other on intuitions of metaphysical reality. To this difference in origin corresponds a difference in epistemological status and hence a

¹ Earman and Gale (1995) 803.

difference in the role that these two types of notions play in Plotinus' argumentative strategies. The failure to distinguish between these two types has obscured our understanding of Plotinus' argument so far. In the second part of the paper, we will turn to two other Neoplatonic philosophers of note, Proclus and Augustine. It will appear that they make the same distinction in their discussions of time. In fact, this distinction underlies Augustine's famous, yet enigmatic remark that he knows perfectly well what time is, provided that no one asks him.

II. *Stoic common notions and Epicurean preconceptions*

The Neoplatonists had inherited the theory of the common notions from the Stoic and the Epicureans. According to the Stoics, sense-perception gives rise to certain basic beliefs that are shared by everyone, which for that reason are called 'common notions' (κοινὰ ἔννοιαι).² Since this happens spontaneously, these notions are not the products of philosophical speculation but of nature, hence they are also known as natural notions (φυσικὰ ἔννοιαι). Because they are natural, the Stoics assume them to be true. These common notions play an important role in philosophical arguments in two ways. On the one hand, they are the self-evident starting points of philosophical proof. Philosophical enquiry consists in filling out the initial knowledge contained in our common notions by articulating them.³ On the other hand, these notions also provide a criterion of truth: any theory that conflicts with them has to be rejected.⁴

The Epicurean equivalents to these common notions are called preconceptions (προλήψεις).⁵ Repeated and remembered perception of, say, dogs will result in the preconception 'dog'. Literally it is what we have grasped (εἰληφέναι) about dogs before (πρό) a scientific enquiry.⁶ All our subsequent investigations ought to be conducted by reference

² At least according to the standard account, see, *e.g.*, Frede (1999a) 319–320. Brittain (2005) 185, however, argues that some of the common notions, including the more interesting philosophical ones, are not common to all rational animals.

³ Brittain (2005) 182.

⁴ Cf., *e.g.*, Brittain (2005) 183.

⁵ In fact these preconceptions are not exclusively Epicurean. They also appear in Stoic philosophy. According to Brittain (2005) 179, in Stoic philosophy, common notions are probably regarded as a sub-set of preconceptions.

⁶ On this etymology, see Asmis (1984) 22.

to these preconceptions. Since these preconceptions are both common and self-evident, Epicureans think little of the dialectical exercises of other schools that aim at producing definitions. Whenever we hear the name (ὄνομα) of a thing, word, we immediately have an evident idea of what is meant.⁷ In his *Letter to Herodotus* 72–73 Epicurus applies these principles to his discussion of time, which merits closer inspection since it will appear to provide us with an illuminating parallel for Plotinus' discussion.⁸ Interestingly, Epicurus starts by observing that we cannot have a full-blown πρόληψις of time. Preconceptions are after all based on sense-perception of physical objects such as dogs. Dogs emit a constant stream of material images of themselves that hit our senses and in this way produce a preconception. Time, however, is not a physical object and hence cannot be perceived in this way. All the same, Epicurus maintains that the case of time is not that much different from that of the study of physical objects. Even though we lack a proper πρόληψις of it, we have something else, a ἐνάργημα (self-evident thing) concerning time.⁹ It is on the basis of this ἐνάργημα that we talk naturally about 'a long time' and 'a short time' and 'use the name "time" (χρόνον ὀνομάζωμεν)', just as we talk about dogs on the basis of our evident preconception of dogs. As in the case of προλήψεις, we derive this ἐνάργημα from sense-perception. When we reason about the phenomena,¹⁰ we find that there is a certain accident that we associate with and measure against (παραμετροῦμεν) days and nights, motions etc.—Lucretius will later say that we derive a *sensus* (experience) of time from these.¹¹—It is this accident that we have in our mind (ἐννοοῦντες) when we use the name (ὀνομάζειν) 'time'. In keeping with his general reluctance to offer definitions, Epicurus feels

⁷ See, e.g., Diog. Laër. X.33 721.7–18 Marcovich (= LS 17E) and the discussion by, e.g., Asmis (1984) 21–23 and Long and Sedley (1987) 87–90.

⁸ On this passage, see, e.g., Asmis (1984) 33–34; Long and Sedley (1987) text 7B and discussion on p. 37; Morel (2002).

⁹ Cf. Epicur., *Herod.* 72: 'We should not inquire into time in the same way as other things, which we inquire into in an object by referring them to familiar preconceptions. But the self-evident thing in virtue of which we articulate the words "long time" and "short time", conferring a uniform cycle on it, must itself be grasped by analogy' (trans. Long and Sedley).

¹⁰ ἐπιλογιστέον: 'calculation; reasoning about the phenomena; an analysis of the phenomena. The prefix ἐπ- signifies that this is a calculation directed at the phenomena' (Asmis [1984] 352).

¹¹ Lucr., *DRN* I 459–460: 'tempus item per se non est, sed rebus ab ipsis / consequitur sensus'; cf. 462–463: 'nec per se quemquam tempus sentire fatendumst semotum ab rerum motu placidae quiete'.

that this appeal to our notion of time suffices. Contrary to, *e.g.*, Aristotle in *Physics* IV, Epicurus does not think that time warrants philosophical demonstration (ἀπόδειξις).¹² In fact, Epicurus' approach is rather like the modern one briefly mentioned at the beginning. He too tries to reach a better understanding of time by analyzing how we ordinarily experience and express time, yet balks at defining it.

III. *Common notions in Plotinus*

Common notions in Plotinus have been studied in depth by John Phillips in an article entitled 'Stoic "Common Notions" in Plotinus'. After a quick discussion of common notions in Stoicism, he turns to *Enn.* VI.5 [23] 1.1–14. Plotinus introduces his investigation about the omnipresence of real being by observing that there exists a common notion (κοινή...τις ἔννοια) that unity is everywhere wholly and integrally. Everybody is 'naturally (αὐτοφύωζ) moved' to say that the god in each of us is one and the same. Unfortunately, man's desire to investigate and test this notion prevents him from accepting this undeniable fact. All the same this unity is 'the firmest principle of all, which our souls proclaim, so to speak (ὥσπερ αἱ ψυχὰι ἡμῶν φθέγγονται), not an abstraction from all the particulars, but preceding all the particulars'.¹³ From this passage, Phillips concludes that Plotinus takes on board the Stoic idea of common or natural notions and the idea that these may function as starting points of philosophical proofs and as a criterion of truth, yet with a Platonic twist to it. These notions are not the product of sense-perception, as the Stoics have it, but of our contact with the intelligible realm. Plotinus' common notion, thus Phillips, 'is an innate idea which to some degree operates within us before all experience and constitutes the internal dialogue of the soul'.¹⁴ It may be added

¹² Cf. Epicur., *Herod.* 72–73: '...[we] must merely work out empirically what we associate this peculiarity with and tend to measure it against. After all it requires no demonstration but merely reasoning about the phenomena, to see that with days, nights, and fractions thereof, and likewise with the presence and absence of feelings and with motions and rests, we associate a certain peculiar accident, and that it is, conversely, as belonging to these things that we conceive that entity itself, in virtue of which we use the name 'time' (trans. Long and Sedley).

¹³ *Enn.* VI.5 [23] 1.9–11. References to the *Enneads* are to the *editio minor* of Henry and Schwyzer.

¹⁴ Phillips (1987) 41.

that Plotinus was not the first Platonist to come up with this Platonizing interpretation of the Stoic common notions. It can, for example, already be found in Alcinous' *Didaskalikos* (chapter 5), a clear indication that it was a generally held doctrine. So generally in fact, that by the time of Alcinous it does not seem to have been regarded as typically Stoic any longer.¹⁵

To return to Phillips' discussion, he compares the passage just mentioned with Plotinus' introduction of *Enn.* III.7 [45], his celebrated treatise on eternity and time. I will quote the first sentences and then paraphrase the rest.

T.1 When we say that eternity and time are different things, and that eternity pertains to the eternal, while time pertains to what comes to be and to this universe, we immediately think, καὶ ὥσπερ ταῖς τῆς ἐννοίας ἀθροωτέραις ἐπιβολαῖς, that we possess a clear experience (ἐναργὲς πάθος) of them in our souls, since we are always talking about them and using their names (ὀνομάζοντες) on every occasion. But when we try to go on to examine them, and, as it were get close to them, we once again find ourselves at a loss what to think; different ones of us fix upon different declarations of the ancient philosophers about them, and perhaps even disagree about how to interpret these statements (*Enn.* III.7 [45] 1.1–10; trans. after McGuire and Strange [1988] 253).¹⁶

We should, Plotinus continues, not content ourselves with a mere doxography of opinions of those ancient philosophers on time. Instead we should try to discover which of them actually got it right. We may either start our approach bottom-up, beginning with an investigation of time

¹⁵ On the theory of common notions in second and third century Platonism, see Chiaradonna (2007). For the fact that the theory of common notions ceased to be regarded as typically Stoic, cf. also, e.g., Dörrie (†) and Baltes (2002) 129 (*ad* § 169). George Karamanolis suggests to me that the first Platonist who was influenced by the Stoic doctrine of common notions was Antiochus of Ascalon (see, e.g., Cic., *Acad.* I.30–32, II.30; *Fin.* V.59). He argues that Antiochus did not simply adopt a Stoic doctrine, but rather understands it in a Platonist way, especially as regards ethics (*Fin.* V.59), and thus presumably considers it as an essentially Platonist doctrine which one can find outlined in the theory about the Forms in the *Meno* or the *Republic* (cf. Karamanolis [2006] 64–65).

¹⁶ One Platonic text that may have inspired Plotinus is, I suggest, Plato, *Soph.* 242 b–244 b. The Eleatic stranger remarks to Theaetetus that they should start their discussion from what now seems quite clear (ἐναργῶς, 242 b 10), i.e. the meaning of the word τὸ ὄν: 'we profess to be quite at our ease about it and to understand the word when it is spoken' (243 c; trans. Cornford). However, when he studies what the ancient philosophers have said about the topic, he fails to understand them (243 ab), and ends up being completely puzzled about what is meant by τὸ ὄν (244 a). On the methodological aspect of this passage, cf. Politis (2004) 6.

and then proceeding to the paradigm of time, eternity, or, inversely we may start from eternity and work our way down towards time. It need not surprise us that Plotinus, being a Platonist, prefers the top-down approach¹⁷ nor that he concludes that Plato is the philosopher who was right.

I have left the phrase καὶ ὥσπερ ταῖς τῆς ἐννοίας ἀθροωτέραις ἐπιβολαῖς untranslated for the moment since its exact meaning is debated. Phillips translates ‘as if by comprehensive grasp of our notion of them’.¹⁸ He assumes that Plotinus here has the Platonic version of a common notion in mind, *i.e.* one that depends on an innate idea. He argues that the phrase ἀθρόα ἐπιβολή denotes the act of intuitive vision (ἐπιβολή) of the whole nature of intelligible realities, which results in a comprehensive (ἀθρόα) grasp of it as opposed to the partial and imperfect comprehension of discursive reason. The ἐννοιαὶ in this case are the innate Forms of eternity and time in the human soul. According to Phillips, Plotinus criticizes us for using the terms eternity and time too freely, as if we had such an intuitive vision of them, which in fact we do not.¹⁹ Moreover, Phillips finds in *Enn.* III.7 [45] an indication that Plotinus uses common notions as a criterion of truth. In *Enn.* III.7 [45] 7.14 Plotinus says that, had we not had the opinions of the ancient philosophers, we would have had to start our discussion of time from scratch, while taking care that the ideas that we develop fit with the conception (ἐννοια) we possess of it.²⁰ To this observation, we may add that later on Plotinus indeed rejects the Stoic theory that time is an extension ‘because it does not have the notion of time’.²¹

Steven Strange both in the very helpful annotated translation of *Enn.* III.7 [45] which he produced together with J. McGuire and in an illuminating article ‘Plotinus on the Nature of Eternity and Time’ takes up Phillips’ analysis of common notions in Plotinus. He accepts much of what Phillips says, yet disagrees with him about the meaning of the phrase καὶ ὥσπερ ταῖς τῆς ἐννοίας ἀθροωτέραις ἐπιβολαῖς. He draws attention to the fact that in Epicurus *Letter to Herodotus* an ἀθρόα

¹⁷ Cf. Chiaradonna (2003) 222–223.

¹⁸ Phillips (1987) 41.

¹⁹ Beierwaltes (1995) 58 n. 42 too assumes that the ἀθρόα ἐπιβολή is some sort of intuitive grasp of eternity and time. He translates ‘durch den unmittelbaren Zugriff des Denkens’.

²⁰ Cf. Phillips (1987) 39.

²¹ *Enn.* III.7 [45] 8.45–46: ὁ οὐκ ἔχει ἐννοίαν χρόνου.

ἐπιβολή of the ἔννοια is a general view of something.²² Moreover, he assumes that ὥσπερ here marks an example rather than a comparison.²³ He therefore translates, ‘we immediately think, as we do in the case of more cursory conceptual apprehensions, that we possess a clear impression of them in our souls’. I agree with Strange on the Epicurean interpretation of the ἀθρόα ἐπιβολή. The occurrence of Epicurean terminology in a Plotinian treatise, odd as it may seem, need not surprise us. Epicurus is after all among those ancient philosophers whose opinions Plotinus sets out to examine.²⁴ Epicurus’ discussion of time may even provide a clue for the understanding of ὥσπερ. As we have seen Epicurus denies that we have a proper preconception of time, since we cannot grasp it as such. Therefore, it is more correct to say that we have something like (ὥσπερ) a concept of time, rather than a concept of time. Plotinus, as we shall see, will make a similar point that we cannot properly grasp time.²⁵ Strange further assumes that Plotinus here criticizes fellow Platonists for the ease with which they talk about eternity and time even though all we have of these are vague concepts. All the same, Strange assumes that Plotinus here assimilates ‘common conceptions to the inborn notions that are our confused earthly reminiscences of the Ideas’.²⁶ Like Phillips, Strange assumes that these notions somehow function as a criterion of truth. He argues that Plotinus here adopts Aristotle’s dialectical method which consists in comparing and contrasting the opinions of both the wise and the many.²⁷ He identifies the opinions of the many with the common conceptions about eternity and time. They ‘provide reliable guideposts for our inquiry, in that any statement that conflicts with them has no chance of being true’, with a proviso that ‘they are unclear and can as they stand provide no insight into the nature of things’.²⁸

Would Plotinus, would indeed any Platonist, trust the common conceptions of the many to be reliable guideposts for further enquiry?

²² Strange (1994) 28 n. 17; his reference is to Diog. Laërt. X.35. Cf. Ghidini (1996) 996–997, who, too, assumes that Plotinus derives the term ἀθρόα ἐπιβολή from an Epicurean source. Yet, like Phillips, she assumes that Plotinus uses it to denote the intuitive vision of a higher reality.

²³ See once again Strange (1994) 28 n. 16; cf. Sleeman (†) and Pollet (1980) 26–30.

²⁴ Cf. *Enn.* III.7 [45] 10.

²⁵ See the discussion of **T.2** below.

²⁶ Strange (1994) 28.

²⁷ Strange (1994) 23–31.

²⁸ Strange (1994) 28.

The many are, after all, completely in the dark about the true nature of reality. They have forgotten completely about the intelligible realm and take this material world to be the only one there is. We may thus expect that at least some of the common conceptions are not reminiscences of the Forms. Rather, they will probably be something like the Stoic and Epicurean common notions, *i.e.* conceptions based on sense-perception. If we take these common notions as the starting points and guideposts of our investigations we run a considerable risk of being led astray because these will probably make us turn our attention away from the intelligible towards the material. We would thus expect Platonists, before they appeal to common notions, to examine first what the origin of these are. As we shall see, this is precisely what Plotinus, Proclus and Augustine do when they discuss time.

IV. *Plotinus and Epicurus on time*

When we first turn to Plotinus (**T.1**), we find that much what he has to say about our notion of time recalls, initially at least, Epicurus' discussion of time. As we have seen, the term ἀθρόα ἐπιβολή itself is Epicurean. Let me, perhaps somewhat superfluously, list the other elements in Plotinus' remark that point in the direction of Epicurus: we associate time with change and movement; we have a clear experience of time that is automatically activated whenever we speak about time or name it; this experience is a general, pre-scientific notion, not some kind of well-articulated definition. This is not to say, of course, that Plotinus is an Epicurean. In fact, he appears to reproach those philosophers who think that these preconceptions are all there is to know about the subject. As we have seen, Strange suggests that these philosophers are fellow Platonists.²⁹ However, Platonists are not normally known as lazy philosophers. To me it seems far more likely that, if Plotinus has a particular group of philosophers in mind at all, these are probably Epicureans who do not feel the need to move from our experience of

²⁹ Cf. Strange (1994) 25, who assumes that the association of eternity with the eternal and of time with coming to be and the universe refers to *Tim.* 37 c–38 b and is thus typical for the Platonists. As we shall see, however, the point about these descriptions is precisely that these represent common notions acceptable to everybody. Cf. *Enn.* II.4 [12] 1, discussed above, where Plotinus gives a rather Platonic description of matter as the 'receptacle of forms', yet assumes that this is an account that philosophers of all denominations will agree to.

time to a philosophical analysis of it. In fact, Plotinus will later on in the treatise complain that the Epicurean definition of time—time is the ‘accompaniment of movement’ (παρακολούθημα τῆς κινήσεως)—does not say anything really.³⁰

Where does, according to Plotinus, this clear experience, this pre-scientific notion come from? As we have seen, both Phillips and Strange assume that Plotinus here refers to concepts based on our recollection of the Platonic Forms. This holds true in the case of eternity. In keeping with the ancient epistemological principle that like is known by like, Plotinus indeed says that we are able to contemplate eternity itself because of what is eternal in ourselves.³¹ It plays an active role in our search for a definition of eternity. The conception (νοοῦμεν) that eternity is something most majestic, is not just the starting point of his investigation, it also actively steers it.³² It ‘declares’ eternity to be identical with god,³³ and ‘strives for’ the conclusion that Plotinus finally reaches,³⁴ just as in *Enn.* VI.5 [23] 1 the soul ‘proclaims’ the common notion of the unity of god.

The *ἔννοια* of time, however, is not innate but was developed over time. How we do this Plotinus describes in the last two chapters of the treatise. From these it appears that Plotinus assumes that we develop our notion in an Epicurean fashion rather than by means of Platonic *anamnesis*. The context of Plotinus’ discussion is the following. As is well known, Plotinus takes issue with all those philosophers who had maintained that time in one way or another depends on movement. Time, he argues, is the life of the soul. Time thus precedes movement, not the other way around. In III.7 [45] 12–13 Plotinus deals with a possible objection to his thesis: doesn’t Plato himself in the *Timaeus* say that the courses of the stars are ‘times’?³⁵ Plotinus explains that since time is something ‘invisible’ (ἀοράτου ὄντος) and something that ‘cannot be grasped’ (οὐ ληπτοῦ), and since people ‘did not know how to count, the god made day and night, by means of which, in virtue of their difference, it was possible to grasp the notion of “two”, from

³⁰ *Enn.* III.7 [45] 10.1–3.

³¹ *Enn.* III.7 [45] 5.11–12: τῷ ἐν αὐτῷ αἰωνίῳ τὸν αἰῶνα καὶ τὸ αἰώνιον θεώμενος.

³² *Enn.* III.7 [45] 2.5–6.

³³ *Enn.* III.7 [45] 5.18–19: Ὅθεν σεμνὸν ὁ αἰὼν, καὶ ταῦτόν τῷ θεῷ ἡ ἔννοια λέγει· λέγει δὲ τούτῳ τῷ θεῷ.

³⁴ *Enn.* III.7 [45] 6.45–46: τοῦτό ἐστιν οὗ ἡ ἔννοια ἐπορέγεται.

³⁵ Plato, *Tim.* 39 b 1–d 2.

which as he says, came the conception of number (ἔννοια ἀριθμοῦ).’ Plotinus continues:

T.2 By counting a single motion repeated many times in a given amount of time we shall arrive at the conception of how much time has elapsed (εἰς ἔννοιαν... τοῦ ὅποσος). Therefore if one said that motion and rotation of the heaven in a way measure time, in so far as it is possible for it to be measured, in that the rotation reveals by its extent the extent of time, which it would not be possible to grasp or know otherwise (οὐκ ὄν λαβεῖν οὐδὲ συνεῖναι ἄλλως), this explanation would not be an inappropriate one. So what is measured by the rotation of the heavens—what it reveals—will be time, which is not generated by the rotation but is merely revealed by it.³⁶

Thus, Plotinus’ account of how we construct a concept of time is very similar to that of Epicurus. Time itself cannot be grasped since it is something invisible, *i.e.* we cannot have a πρόληψις of it. By reasoning about the phenomena, however, we find that there is something with which we associate such things as the movements of the heavenly bodies and which we measure against these movements. It tends to be overlooked that Plotinus here paraphrases another passage from the *Timaeus*, from which it appears that Plato too assumes that we arrive at our conception of time on the basis of empirical reasoning. When Timaeus discusses the functions of the human eye, he observes that had it not been for our eyes, had we been unable to see the stars, sun or heavens, it would be impossible to discuss the universe. He continues:

T.3 As it is, however, our ability to see the periods of day-and-night, of months and of years, of equinoxes and solstices, had led to the invention of number, and has given us the concept of time (μεμηχάνηται μὲν ἀριθμόν, χρόνου δὲ ἔννοιαν) and opened the path to inquiry into the nature of the universe (*Tim.* 47 a 4–7; trans. Zeyl adapted).

According to Plato, the way in which we arrive at our ἔννοια of time has nothing to do with innate ideas. It is not the case, for example, that our contemplation of the heavenly movements makes us recall something like the Form of Time. In fact, Plato never explicitly connects ἔννοια with his famous theory of recollection.³⁷ Plotinus, it appears, is as much the product of his contemporary philosophical

³⁶ *Enn.* III.7 [45] 12.27–52, trans. McGuire and Strange (1998) 264.

³⁷ Cf. the remark by Chiaradonna (2007) 213: ‘È stato giustamente notato che essi potevano trovare in Platone varie allusioni alle ἔννοιαι, alcune delle quali esplicitamente collegate alla dottrina della reminiscenza’ and the additional note.

environment as he is of his close-readings of Plato. As a third century Platonic philosopher he assumes that the common notion of eternity is an innate idea, a reminiscence of an intelligible entity. As a reader of Plato, however, he assumes that the common notion of time is the product of the perception of physical phenomena. Therefore, we should not, *pace* Phillips, conclude from Plotinus' claim that the common notion of the omnipresence of god is not 'an abstraction from all the particulars',³⁸ that for Plotinus common notions *in general* depend on our intuition of metaphysical principles rather than on abstractions from sensible particulars.

Plotinus' position is not unprecedented. Plutarch of Chaironeia provides an interesting parallel. He compares the human soul to the wax tablet of the spy Demaratus. The latter had smuggled news about the Persian invasion from Persia to Greece by carving his real message in the wood of a wax tablet. He then covered it with wax on which he wrote something else to avoid suspicion. Plutarch's point is that sense perception provides us with all sorts of notions and opinions. These are represented by the message written in the wax. However, deep down in our soul the innate knowledge of the Forms is hidden. This knowledge is brought to the surface by means of Platonic anamnesis.³⁹

V. *Plotinus' method: from common concept to essential definition*

This humble origin of our notion of time raises the question of its function within Plotinus' argument. For if our notion consists of an abstraction from the perceptible phenomena it is not very likely that it can ever function as a solid starting point for philosophical proof or as a criterion of truth. Quite to the contrary! It is precisely this notion that led all those philosophers whom Plotinus criticizes in this treatise to assume erroneously that time is some function of movement.

The reason for Plotinus' appeal to the common concept of time at the beginning of his treatise becomes clear once we see that the way in which Plotinus introduces the question of time and eternity—*i.e.* by

³⁸ *Enn.* VI.5 [23] 1.10–11.

³⁹ For this passage from Plutarch (fr. 215 Sandbach [1969] 388–389), see Scott (1987) 349. Scott goes on to suggest that Plutarch actually gives a more or less correct interpretation of Platonic anamnesis.

starting from the name of a thing and the notion going with it and then moving to the problem of defining it in a philosophically satisfactory manner—follows an established pattern of developing a philosophical investigation that goes back to Aristotle and that is well attested in the ancient commentators on Aristotle.⁴⁰ Aristotle *An. Post.* II.10 93 b 29–94 a 10 distinguishes between various types of accounts (λόγοι). First of all, there is the account ‘of what a name (ὄνομα) means’. Next, thus Aristotle, once we have found that the thing to which a name refers in fact exists, we want to know why it is. A second type of account thus offers a demonstration of what a thing is (ἀπόδειξις τοῦ τί ἐστὶ), for according to Aristotle, to understand why a thing is, is to grasp its essence, *i.e.* what it is.

These two types of account resurface in the Neoplatonic commentators on Aristotle. Porphyry and other commentators distinguish between the ὀνοματώδης λόγος or, as they often call it, ἐννοηματικός λόγος (conceptual definition) on the one hand, and the οὐσιώδης λόγος (essential definition) on the other hand. The former consists in the meaning of a word (ὄνομα). It coincides with the concept (ἐννόημα) that we have of a thing based on sense perception.⁴¹ According to Porphyry, we acquire these concepts by separating the immanent Form from its matter.⁴² These concepts are rather general in nature and easily acceptable to all. The οὐσιώδης λόγος, by contrast, gives an account of the essence (οὐσία) of a thing. It is the product of philosophical speculation and therefore not uncontested, as appears from the heated debates between the various schools. To quote the ancient definition that Simplicius offers when he paraphrases a passage from Porphyry’s *Commentary on the Categories*:

T.4 Conceptual definitions, in that they are commonly (κοινῇ) agreed by everybody, are the same, while essential ones are produced according to individual schools and are disputed by those who hold differing opinions (Simp., *In Cat.* 213.18–20; trans. Fleet [2002] 71).

Simplicius illustrates the difference between a conceptual definition and a substantial one for the case of sound. According to the conceptual

⁴⁰ On this topic, see Kotzia-Panteli (2000), Brittain (2005) esp. 191–196.

⁴¹ For the fact that according to most Neoplatonists, including Porphyry language refers to concepts based on sense perception, not on innate Forms, see Van den Berg (2004).

⁴² On Porphyry’s theory of sense perception, see Chiaradonna (forthc.b).

definition, ‘sound is the proper perceptual object of hearing’. Everybody can agree to that. However, the essential definition of sound as ‘air when impacted upon’, will not be accepted by those philosophers who hold that sound is ‘something bodiless in actuality and as an impact’.⁴³ On the basis of the well-known Aristotelian principle that philosophical investigation should proceed from what is better known to us to what is better known *simpliciter*, the Neoplatonist commentators hold that we should start our discussions from the ἐννοηµατικὸς λόγος and then move to the οὐσιώδης λόγος.⁴⁴

Plotinus may have left it to his successors to formulate a textbook definition of these two types of definitions, yet he is familiar with this distinction as can be seen from the introduction to his treatise on matter:

T.5 What is called ‘matter’ is said to be some sort of ‘substrate’ and ‘receptacle’ of forms; this account is common to all (κοινόν... λόγον) those who have arrived at a notion (εἰς ἔννοιαν ἡλθον) of a nature of this kind, and as far as this they all go the same way. But they disagree as soon as they begin to pursue the further investigation into what this underlying nature is (τίς δέ ἐστιν αὐτῇ ἡ ὑποκειµένη φύσις) and how it is receptive and what of (*Enn* II.4 [12] 1.1–6; trans. Armstrong).

All philosophers understand what is meant by the word ‘matter’, yet they differ about its exact nature. This text provides a close parallel to *Enn.* III.7 [45] 1: all philosophers agree about what is meant by the words eternity and time, *i.e.* they know how to use these words. The former has to do with eternal being, the other with becoming as we see it in the physical universe. Indeed, as we have seen even an Epicurean could agree with Plotinus’ description of time as a kind of clear experience, as he could to Plotinus’ claim that we associate eternity with ‘something majestic’ and divine.⁴⁵ If we didn’t share an, admittedly vague, notion of eternity and time, discussion between the various schools about the exact nature of these, *i.e.* the discussion about the substantial definition, would result in a pointless cacophony. The philosophers of the various affiliations would no longer be discussing the same things. In that case, Plotinus’ method in *Enn.* III.7 [45], which

⁴³ Cf. Simp., *In Cat.* 213.14–21; trans. Fleet (2002) 72.

⁴⁴ Cf. Simp., *In Cat.* 213.23–26.

⁴⁵ Cf. *Enn.* III.7 [45] 2.5–6. Even the Epicureans would admit that the gods are immortal and hence eternal.

consists in a dialectical confrontation with his predecessors, would not have got him anywhere.⁴⁶

Yet, whereas Epicurus was happy to leave things at the level of pre-conceptions on the assumption that these exhaust the topic, Plotinus wishes to move on from our common notion of time to an essential definition of it. It may be that ‘the rotation of the heaven indicates time’, that time is made manifest by these movements ‘so that we can form a conception of it, but it cannot come to be in this way’.⁴⁷ However,

T.6 [w]hen Plato wants to indicate the essential nature of time (τὴν...οὐσίαν αὐτοῦ), he says that it came into being along with the heavens, according to the paradigm of eternity, and as its moving image, since time does not stand still, nor does the life along with which it runs and keeps pace (*Enn.* III.7 [45] 13.23–26; trans. McGuire and Strange [1988] 264).

In conclusion about the function of the common notion of time in Plotinus’ treatise, it can thus be said that it serves to introduce the topic at the beginning of the discussion in the most neutral way possible. Plotinus appeals to this notion to make sure that we all know what we are talking about, however different our views on the topic may be. To him, the common notion of time is hardly informative about what time is essentially. In this respect it differs significantly from a Stoic common notion.⁴⁸ As we have seen (§ II), on the Stoic account, philosophical enquiry consists in articulating these notions on the assumption that they yield at least partial information about the essence of the things to which they refer. However, if you proceed on the assumption that our common concept of time does not grasp even a part of its essence, articulation of it will not get you very far if you wish to define its essence. In order to do so, we should, according to Plotinus, go beyond our experiences of temporal phenomena such as the movements of the heavenly bodies that inform our notion of it and look for the metaphysical principles from which these phenomena

⁴⁶ On this aspect of Plotinus’ philosophical method, see the very instructive discussion by Chiaradonna (2005a) esp. 268–270.

⁴⁷ *Enn.* III.7 [45] 13.1–6 (trans. McGuire and Strange [1988] 264).

⁴⁸ This point has been well made by Brittain (2005) 195–196: ‘[the Neoplatonic] theory assumes that normal perception delivers *accidental* features of the relevant kinds, but ones generally sufficient to single out ordinary individuals falling under those kinds. The fundamental difference between this and the Stoic theory is...[that] since Stoic preconceptions yield secure, if only partial, knowledge of what the thing is, they don’t yield “conceptual” or linguistic knowledge *as opposed to* knowledge about the substance or essence of things.’

can be explained. These principles cannot be discovered by reasoning about our experiences of phenomenal time. In fact, this is precisely where Aristotle, the Stoics and the Epicureans went wrong in their discussions of time.⁴⁹

But what about the observation that Plotinus uses the common notion of time as a criterion to test philosophical accounts of time? Even common notions that go back to sense perception contain some truth. They may not grasp the metaphysical essence of a thing, yet they still grasp some accidental feature about it. There is after all some relation between change and time. Even if the movements of the heavenly bodies are not time, they partake in time. It is only after we have grasped the true nature of time that we understand this relation. All the same, any theory of time that is unable to accommodate these notions is unlikely to be correct.⁵⁰ This is what Plotinus means when he rejects the Stoic position that time is the distance (διάστημα) covered by movement because it ‘does not contain the notion of time’.⁵¹

VI. Proclus

Proclus in his discussion of time in his *Commentary on the Timaeus* rejects Plotinus’ thesis that time is the life of the soul,⁵² yet the way in which he approaches the topic clearly shows the influence of Plotinus’ methodology. Like Plotinus he demands that physical phenomena in general be explained by metaphysical principles. Aristotle’s failure to do so, he claims at the beginning of his commentary, fatally cripples his *Physics*. According to Proclus, these principles are divine and he thus holds that the study of nature, φυσιολογία, is also a sort of theology.⁵³ In line with this theological view of the study of nature, he seeks to prove that the principle of time is a god, and a rather superior one at the level

⁴⁹ On Plotinus’ criticism of theories of time that focus on the appearances of it in the physical world, rather than on its metaphysical cause, see, e.g., Chiaradonna (2003) 226.

⁵⁰ Cf. Brittain (2005) 200: ‘[the Neoplatonic theory] claims that ordinary competence in natural language presupposes the possession of ‘common conceptions’ which identify *accidental* features of the basic natural kinds...and can thus be used as partial criteria for the real definitions that the philosophers seek.’

⁵¹ *Enn.* III.7 [45] 8.45–46.

⁵² Cf. Procl., *In Tim.* IV 3.21.6–24.30.

⁵³ Proclus’ criticism of Aristotle’s *Physics* and his interpretation of physiology as a sort of theology have been well discussed by Steel (2003).

of Intellect at that. All the same, he starts his examination of time like Plotinus from our ordinary notion of it.

T.7 The majority of men, then, too have a notion and a shared sensation of time (χρόνου ἔννοιαν καὶ συναίσθησιν). From looking at the movements of sublunary things and those of the heavenly bodies they get the idea that time is ‘something of movement’, like the number of movement or its extension, or something similar (Procl., *In Tim.* IV 3.8.28–9.2).

Thus, Proclus’ explanation of the origin of the ordinary notion of what time is, is that of Plato and Plotinus. He is even willing to call it a common notion (ἡ κοινὴ ἔννοια),⁵⁴ yet this common notion does not provide a firm principle from which to develop a sound philosophical analysis of time because it has its origin in the world of the phenomena and of sense-perception. It only explains where we got our perceptual definition of time from, not what it really is. Proclus clearly marks the transition from the conceptual accounts to the substantial accounts of time and eternity. After Proclus has also explained how the wise men developed a notion of eternity, he concludes that he believes that this is how the majority of men first came to grasp the notion of time (τὴν πρώτην ἔννοιαν) and the wise that of eternity. He then continues: ‘What each of them is, needs now to be said, following closely the guidance of the divine Plato.’⁵⁵ Proclus then proceeds to offer a discussion that leads to a substantial account of what time and eternity are. He does so by scrutinizing the conflicting opinions of other philosophers, including Aristotle, Plotinus, and his own master Syrianus, whom he believes to be right.

Like Plotinus, Proclus distinguishes between two types of common notions. He obviously thinks little of these common notions of time and eternity, since they are based on sense-perception of phenomena, not on the intuition of metaphysical principles.⁵⁶ The physicists, *i.e.* the Aristotelians, went wrong, Proclus says, because they only focused on participated time as it can be observed in movement, since they were

⁵⁴ Procl., *In Tim.* IV 3.9.15.

⁵⁵ Procl., *In Tim.* IV 3.9.21–23: τί δὲ τούτων ἐκάτερον, ἥδη λεκτέον, καὶ μάλιστα κατὰ τὴν τοῦ θεοῦ Πλάτωνος ὑφήγησιν.

⁵⁶ Cf., *e.g.*, Procl., *In Parm.* IV 896.10–13: ‘We should not, therefore, equate these thoughts (νοήματα) arising from essential reason-principles [*i.e.* our innate Ideas, RvdB] with what are called by some “notions” (ἐννοήματα), even though the terms are almost identical; for these latter are objects stimulated by sense-perception’ (trans. Morrow and Dillon [1987] 256, who furthermore note that the anonymous ‘some’ are the Stoics).

incapable of grasping the (metaphysical) cause of the phenomenon.⁵⁷ However, one of his arguments against them is based on a common notion of the superior type.⁵⁸ Proclus argues thus: according to a common notion (κοινῆς οὔσης ἐννοίας) the seasons, the month, day and night are gods. From this it necessarily follows that time too is a god, since time includes these. Since time is a god, its essence cannot be located in the physical world, as the physicists do when they say that time is the counted number of movement. So here we see Proclus, in a Stoic fashion, drawing out the consequences of a common notion in order to achieve an understanding of the essence of time.⁵⁹ What makes the common notion about the seasons etc. different from that of time and eternity, is that this notion is based on contact with these metaphysical entities themselves: these gods, thus Proclus, have themselves taught us how to invoke and worship them.

Also like Plotinus, Proclus too believes that we should not simply discard the common notion which links time to the movement of the heavenly bodies. When commenting on *Tim.* 39—the passage already addressed by Plotinus that seems to imply that Plato regards the movements of the heavenly bodies as times—Proclus explains that *Timaeus* expresses himself imprecisely, because he does not want to disregard the customary way of talking about time. Proclus' teacher, Syrianus, had remarked in this regard that a philosopher should not 'destroy the phenomena', *i.e.* he should not abolish the non-scientific conceptions about the appearances. Instead, he should refer them back to their metaphysical principles.⁶⁰ In other words, a good, *i.e.* a metaphysical, theory of time should be able to accommodate the pre-scientific common concepts about the subject.

⁵⁷ Procl., *In Tim.* IV 3.32.4–6.

⁵⁸ Procl., *In Tim.* IV 3.32.16–21.

⁵⁹ For another example of this use of common notions, see, *e.g.*, Procl., *Prov.* 6, where he explicitly starts his demonstration about the nature of providence and fate from our common notions of these.

⁶⁰ Procl., *In Tim.* IV 3.35.20–29: δεῖ τοίνυν καὶ τὴν ἡμέραν καὶ τὰ ἄλλα ὅσα μόρια λέγομεν εἶναι τοῦ χρόνου πανταχοῦ τὰ αὐτὰ εἶναι, καὶ εἰ μεριστῶς καὶ <εἰ> διαπεφορημένως ὑπὸ τῶν αἰσθητῶν δημιουργημάτων μετέχονται · εἰς ἃ καὶ βλέποντες ἔνιοι ἐπὶ συνηθέστερα μᾶλλον ἢ ἀκριβέστερα σημαίνόμενα τῶν ὀνομάτων καταφέρονται. ἔστι τοίνυν, ὥς ὁ ἡμέτερος ἐφιλοσόφει πατήρ (Syrianus), οὐκ ἐπ' ἀναιρέσεις τῶν φαινομένων (λεγέτω γὰρ καὶ ταῦτα ὁ Τίμαιος, ἃ καὶ τοῖς πολλοῖς εἰωθελέγεσθαι), ἀλλ' ἐπὶ τὰς κυριωτέρας ὑποστάσεις καὶ ταῦτα ἀνάγων, ὥσπερ εἰώθει ποιεῖν.

VII. *Augustine*

Conf. XI contains Augustine's famous discussion of time which, like that of Proclus, is clearly influenced by Plotinus' treatment of the topic. This is not, of course, to say that Augustine follows Plotinus slavishly. However, his treatment of the common notion of time is very similar to that of Plotinus. Let us start by looking at the famous words by which Augustine introduces his discussion of the nature of time that echoes the opening words of Plotinus' treatise:

T.8 What is time? Who can explain this easily and briefly? Who can comprehend this even in thought so as to articulate the answer in words? Yet what do we speak of, in our familiar everyday conversation, more than of time? We surely know what we mean when we speak of it. We also know what is meant when we hear someone else talking about it. What then is time? Provided that no one asks me, I know (*Conf.* XI.14 (17); trans. Chadwick [1991] 230).

This text has attracted its fair share of attention from famous philosophers such as Husserl and Wittgenstein.⁶¹ They both make much, if not too much, of the paradoxical situation that Augustine claims to know what time is, yet is incapable of telling what precisely it is. I believe that Augustine, like Plotinus before him, uses this paradox to make clear that there exists a wide gap between the unproblematic conceptual notion of time, to which we refer in ordinary conversation, and the essential definition of it. Like Plotinus and Epicurus, Augustine assumes that our conceptual notion is linked to a certain experience: 'we experience intervals of time (*sentimus intervalla temporum*) and compare them with each other, and call (*dicimus*) some longer, others shorter.'⁶² We measure time against phenomena such as the movements of the heavenly bodies. However, this conceptual notion does not provide us with an essential definition of time, as Augustine makes clear in *Conf.* XI.23 (29–30).

There, Augustine mentions the opinion of a certain 'learned man', according to whom the movements of the heavenly bodies themselves constitute time. It is sometimes suggested that Augustine here refers

⁶¹ On the interpretations of Husserl and Wittgenstein of this passage, cf. Flasch (1993) 341–342.

⁶² *Conf.* XI.16 (21).

to Plato, *Tim.* 39 cd.⁶³ Augustine rejects this position: suppose that this identification were correct. In that case nothing would prevent us from claiming that time consists in the movements of all physical objects, including such mundane things as a potter's wheel. Augustine continues:

T.9 God grant to human minds to discern in a small thing common notions of both small and great things (*communes notitias rerum parvarum atque magnarum*). There are stars and heavenly luminaries to be 'for signs (*in signis*) and for times, and for days and for years' (*Gen.* 1 14). They truly are. But I would not say that a revolution of that wooden wheel is a day; and that learned friend could not assert that its rotation was not a period of time (*Conf.* XI.23 (29); trans. after Chadwick [1991] 237).

Commentators are quick to point out that Augustine's *communes notitias* are the κοινὰ ἔννοιαι of the Stoics.⁶⁴ However, these are rather like Plotinus' common notions. For, just as Plotinus had argued in III.7 [45] 12–13, these movements only indicate time. These common notions only reveal an accidental feature about time, not the essence of time itself. Augustine, like Plotinus, is not very interested in these concepts. He wants to move on to what the Neoplatonists would call an essential account of time, as appears clearly from the way in which he continues after the passage just quoted: 'I desire to understand the power and the nature of time (*vim naturamque temporis*), which enables us to measure the motions of bodies.' The emphatic 'ego' deserves mentioning: Augustine clearly wants to distance himself from such people as the anonymous learned man who mistakes the common notion of a thing for the thing itself. In his commentary on *Conf.* XI, the patristic scholar E. P. Meijering observes that this critical attitude towards common notions is characteristic of Augustine. It contrasts sharply with, *e.g.*, Tertullian's readiness to appeal to them.⁶⁵ I suggest that in the present case, Augustine's critical attitude is due to the Neoplatonic tradition that informs his discussion.

⁶³ On this identification, see, *e.g.*, Meijering (1979) 79; Chadwick (1991) 237 n. 25.

⁶⁴ See, *e.g.*, Solignac (1962); Meijering (1979) 81.

⁶⁵ Meijering (1979) 81: 'Tertullian beruft sich gerne auf die κοινὰ ἔννοιαι, Augustin will sie hingegen kritisch erforschen, also auch die geläufigen Vorstellungen zur Zeit.'

VIII. *Conclusions*

In conclusion, it can be said that Plotinus and Proclus distinguish between two types of common notions. On the one hand there are notions that more or less resemble Epicurus' preconceptions. These notions are the products of our experience with the physical world. They coincide with the ordinary meaning of words. Since they are common, communication is possible, be it ordinary conversation or philosophical discourse. However, since they are based on our perception of the phenomena, and not on the metaphysical causes of these, these notions cover only certain accidental features of their objects. Therefore, an analysis of these should not be expected to contribute much to determining the essence of things.

These common notions should be contrapsted with another set of common notions that result from our contact with metaphysical reality. Articulation of these notions may indeed yield insight into the essence of things. They thus fulfill the same function as common notions in Stoicism, albeit they differ in nature.

Common notions in the field of the philosophy of nature will be mainly the products of our experiences with physical phenomena. Since Neoplatonists hold that the study of nature is primarily a study of the metaphysical causes of the phenomena, their heuristic value will thus be minimal. However, they may function as some sort of test of the validity of a theory. These notions express after all some aspects of reality, even if these are not essential. Any theory that is unable to do justice to these notions is wrong, because it clearly fails to 'save the phenomena'.⁶⁶

⁶⁶ I wish to thank the participants in the workshop for their criticism and suggestions, in particular Riccardo Chiaradonna and George Karamanolis.

A WORLD OF THOUGHTS: PLOTINUS ON NATURE AND CONTEMPLATION (*Enn.* III.8 [30] 1–6)

Christian Wildberg

I

Despite an ever increasing volume of recent publications on the topic, Plotinus' philosophy of *nature* is in general not a field scholars of ancient philosophy are particularly familiar with. By and large, Plotinus is much better known for his aesthetics or the loftier architectonics of his metaphysics, and many publications that explicate Plotinus' fundamental doctrines of how Reality, Reason, and Life emanate from the principle of Unity are much less eloquent about the structure and dynamics of the lower regions of the Plotinian universe, and about how precisely the ever-changing realm of nature depends on *its* ontological principles.

Take, for example, the seemingly simple question whether or not Plotinus subscribed to hylomorphism: it is not at all straightforward to give a concise and unequivocal answer. To be sure, Plotinus is happy to use the *discourse* of hylomorphism (with terms like matter, form, substrate, and substance), thus betraying the considerable influence the Aristotelian tradition of natural philosophy had on him.¹ However, the crucial component terms of the Peripatetic doctrine, matter and form, have been given meanings so idiosyncratically Plotinian that attributing Aristotelian hylomorphism to Plotinus would be misleading; in fact, given the way in which Plotinus criticises Aristotle's most important instantiation of hylomorphism (the togetherness of body and soul),² it would probably be wrong to do so.³ I shall revisit the question briefly below, but further and more extensive research in this area of Plotinian philosophy remains, I would say, a desideratum.

¹ One can encounter such language everywhere in the *Enneads*, but a particularly striking example would be. II.4 [12] 6, where Plotinus seems to endorse what Armstrong called 'an accurate exposition of Aristotle's doctrine of matter, in Aristotelian language' (Armstrong [1966] 117 n. 3).

² See *Enn.* IV.7.8⁵. For a useful discussion of this chapter, see Gerson (1994) 127–138.

³ Cf. the verdict pronounced by Deck (1967) 75: 'The impossibility of matter rules out any true union between matter and form in Plotinus' sensible world.'

Why is it that Plotinus' natural philosophy received relatively little attention in comparison to the natural philosophy of, say, Plato, Aristotle, the Stoics, or even the later Neoplatonists of the 6th century?⁴ One important reason for this situation, it seems, is the fact that Plotinus' thoughts about the physical world did not have had much of an impact, not even in antiquity and within the confines of his own school—which is surprising, given that Plotinus was and remained such a towering figure in the collective imagination of all subsequent Neoplatonists. In the centuries after Plotinus, his successors and followers studied the *Timaeus* or the detailed and fully worked out physical doctrines Aristotle had offered in his cycle of lectures—and they evidently preferred them to the allusive sketches we find in the *Enneads*. Proclus' *Elements of Physics*, for example, reads like an epitome of Aristotle's lectures and not at all like a continuation and development of Plotinus' views in the second and third *Enneads*. Proclus even repudiated Plotinus on certain points, notably the conception of matter,⁵ thus developing a strain of intramural critique that went back all the way to Iamblichus and perhaps Porphyry. But if one rejects Plotinus' radical view of matter, many other pieces of Plotinus' natural philosophy, with its enormously suggestive idealistic and moral implications, become objectionable too.

Another reason for a widespread lack of familiarity with Plotinus' philosophy of nature seems to be the prejudice that Plotinus was a hard-core metaphysician who had little or no interest in natural science.⁶ Although it would certainly be false to say that Plotinus was a natural scientist in the same sense in which Aristotle, Galen, or Ptolemy can be called 'scientists', it seems nevertheless right to affirm both that Plotinus was a keen and shrewd observer of the phenomena, and that he tackled fundamental questions of natural philosophy in earnest, if in his own idiosyncratic way.⁷ And it is perhaps this 'idiosyncratic way', above all, that has stood in the way of Plotinus being read by scholars interested in ancient philosophy of nature. Plotinus requires

⁴ Although recent years have seen an increase in publications on Plotinus' natural philosophy; in addition to the older study by Deck (1967) see now Brisson (2000), Corrigan (2005), ch. 3, Majumdar (2007), O'Meara (1985), Wagner (1986), (1992) as well as the various contributions in the edited volume by Wagner (2002).

⁵ See Proclus treatise on evil translated and introduced by Opsomer and Steel (2003).

⁶ See the remarks by Hathaway (2002) 5.

⁷ Cf. Lee (2002) 23–26, who points out the dependency, in Plotinus, of physics on dialectic.

from the historian a hermeneutical approach that differs from the way in which one can hope to obtain an adequate understanding of almost any other figure in the history of philosophy. In those other cases, it usually suffices to lay out the doxography along with the scientific and epistemological principles that ground it in order to get a sense of a philosopher's physical theory and the rationale behind it. That way of 'outlining' a body of thought does not work so well for Plotinus. By simply revealing the skeleton of his ideas, one puts him more likely at a distance, far enough to allow scores of historians of philosophy to gloss over the profundity of his views and to dismiss them lightly. Similarly, if one slips (as some modern interpreters of Plotinus are wont to do) into a mode of exegesis that revels in supercharged paraphrases and allusive obscurantism, one's exposition threatens to become palatable only to those who have already had a long training in absurdity. Only when we make the effort to read Plotinus' idiosyncratic prose carefully, to follow the leads of his many suggestions, and to think the issue through with him, it may turn out that Plotinus opens up startling new vistas and refreshing perspectives that seem more powerful and cogent as well as less dated and outmoded than anything else in ancient philosophy. This is a hard thing to do, and I am not claiming that this essay succeeds to meet that goal. But unless we take aim at it, we will never rescue Plotinus' natural philosophy from the realm of relative obscurity in which it still languishes.

II

The very beginning of *Ennead* III.8 [30] (*On Nature and Contemplation*),—the first part of an anti-gnostic *Großschrift* that comprised, apart from III.8, V.8 (*On the Intelligible Beauty*), V.5 (*That Intelligibles are not outside the Intellect*), and II.9 (*Against the Gnostics*),—takes us straight to the heart of Plotinus' philosophy of nature.⁸ What Plotinus offers us here is a dazzling view of the natural world, one that turns his philosophy into the purest form of objective idealism devised in ancient philosophical history. The material, phenomenal world, or Nature, is understood not

⁸ These are treatises 30–33 in the chronological list of Plotinus' works and belong to the period of six years during which Porphyry studied with Plotinus at Rome. Plotinus was then in his early sixties.

as a realm of reality in its own right, but as the external and derivative aspect of an ideal world constituted by the generative power of a transcendent principle of Unity, Being and Goodness. This power expresses itself in three different manifestations, Intellect, Soul, and Nature, in axiologically and aetiologically descending order. Physical matter, on which more later, appears at, and is involved in, that stratum of the ontology at which the information contained in Intellect ceases to be spiritually productive and becomes physically manifest instead, breaking up into fragmented copies and partial images scattered in space and time, like traces of rays of lights dissipating into an empty darkness, sporadically illuminating it here and there. Except that these traces and images do not dissipate just like that, in some haphazard fashion and without rhyme or reason; before they decay and disappear, they become, for a time, part of a coherent living being, our cosmos, a grand kaleidoscope of ever shifting shapes, colors and qualities. How can this be?

Plotinus' answer in the treatise *On Nature and Contemplation*, presented more as bold hypothesis than solid doctrine, is that Nature, *i.e.* the sum total of the natural world, and every natural being in it, dead or alive (although nothing is really dead), is engaged in quiet contemplation of that what *really* exists, the ideal entities; furthermore, this thought process originates in Soul (which in turn is a thought of Intellect), and the natural world we are familiar with is nothing but an effortless fall-out of the quiet act of Nature's contemplation.

So much for doxography. How can we possibly appreciate this strange point of view more fully? Let us first assume the perspective that we already possess, that of historical distance. Looking at the earlier history of Greek and Roman philosophy, we have become accustomed to a variety of attempts to understand the physical world either in a bottom-up or top-down kind of fashion: on the one side, we encounter thinkers who posit roots, elements or atoms as the basic building blocks; from them, the material world emerges by means of complex and laborious processes of elemental aggregation and rearrangement. On the other side, there are those thinkers who let the world come to be by an act of temporal or eternal creation in which a powerful divine mind or craftsman imposes form on a pre-existent soup of indistinct space-matter. Plato and the Stoics are the archetypal top-down thinkers, albeit in entirely different ways, whereas the atomists Epicurus and Lucretius along with most of the Pre-Socratic philosophers very much belong to the category of bottom-up thinkers. Aristotle is characteristically difficult

to file away with the help of some such superficial categorization. To be sure, the prime mover is the supreme principle in his ontology, and we do get a sense how the prime mover, as an object of universal desire and understanding, makes the world go round on a cosmic scale. But what kind of work precisely the prime mover does in the natural habitat of our backyard is quite difficult to decipher, at least from Aristotle's extant writings. Probably none, for according to Aristotle, here, in the sublunary world, the principle of motion is Nature herself, or rather the nature of each natural thing, whatever it is, bringing the nascent embodied form to its mature *τέλος*. What we encounter in Aristotle is, in fact, a plethora of moved movers operating in different modes of causality and on various levels of complexity. The four elements interact with one another according to quasi-chemical laws to produce all kinds of homoeomeric aggregates suitable for higher forms of organization and life, both flora and fauna. Living organisms can be understood as material substances each functioning in a certain way, and expressing, in this functioning, their particular *τέλος*. In a sense, we can see how the highest and the lowest levels of Aristotle's ontology complement one another in such a way that an understanding of the whole necessarily presupposes that the philosopher understands the principles and causes at both ends of the ontological spectrum. *Qua* natural philosopher, Aristotle is very much at once a top-down and a bottom-up thinker, although it often remains unclear how well his purely teleological top-down perspective and his story of a multifaceted bottom-up causality interface with one another.

One would not go wrong in saying, in a preliminary way, that Plotinus squarely belongs in the department of top-down philosophers, although, as we shall see, he does share with Aristotle a certain aetiological ambiguity of both 'bottom-up' and 'top-down'. But above all, Plotinus invests his ontology with breathtaking elegance and simplicity, in such a way that, in contrast to Aristotle, the bottom-up view is intimately wound up with and connected to the top-down view of reality. Perhaps they are even the same thing under different descriptions. As he puts it at one point: "The administration of the universe is like that of a single living being, where there is one kind which works from the outside and deals with it part by part, and another kind which works from inside, from the principle of its life."⁹

⁹ *Enn.* IV.4 [28] 11.1–5 (trans. Armstrong).

One way to understand Plotinus' general picture is to assume that he takes Aristotle's famous suggestion of *Metaphysics* XII very seriously, *i.e.* that the unmoved prime mover, $\nu\omicron\delta\varsigma$, is a final cause and moves (transitively) the universe just as an object of thought and desire would move a mind that thinks or so desires (XII.7 1072 a 26). However, instead of then following Aristotle into a detailed study of efficient, formal and material causalities operative in the sublunary region, Plotinus simply universalizes the Aristotelian insight: it is not only the case that the celestial spheres desire to emulate the prime mover's rationality with the regularity of their motion, and that human behaviour, driven as it often is by more or less well conceived aspirations, can be explained best by invoking teleological motives, but rather (and this is Plotinus) the whole realm of Nature animates and regulates the phenomenal world in precisely this way, by contemplating ($\theta\epsilon\omega\rho\epsilon\acute{\iota}\nu$) that which is above it in an effort to come to know it, to the extent to which it is capable of so doing. Here, as on any level of Plotinus' ontology, the top-down process of emanation is fielded by a bottom-up response of the lower hypostasis. In fact, it is precisely this cognitive about-turn which makes any spiritual entity that what it is: Soul and Nature are thoughts of Intellect, and if Intellect exists, they necessarily exist as well; but in order really to be what they are, *viz.* living and life-giving rational principles on lower levels of ontology, their consciousness and inner life have to turn back to the source and become aware, somehow, of the rich world of archetypes in Intellect.

To illustrate the point by a simple example: what Plotinus seems to claim is that everything comes to be what it is in a way that is comparable, for example, to the ways a musician or mathematician come to be, and then *are* a musician or mathematician. Artists and experts of this kind have to pay a great deal of studied attention to the mathematical axioms and theorems, or to notes, melodies, and musical theory, and so on. The artist or scientist becomes a practitioner of the art or science by becoming, and being, a knower of the art or science in question. Their minds have to 'turn around to' something that is quite independent from, and prior to, the cognitive activity required to exercise the art or science. So why not, Plotinus suggests, think about all the life-forms of nature, collectively and individually, in just the same way? Whenever something comes to be naturally what it is naturally supposed to be (a bee or a bird or a tree), it does so in virtue of something thinking of, or 'contemplating', something else that is prior to it.

III

A strange thought, and Plotinus is well aware of the suggestion's oddity. In III.8 [30] 1 we witness how Plotinus attempts to bring his students round to this perspective by inviting them to think along with him in a light-hearted and playful manner:

So, what if we played around at first, before trying to be serious, and said that all things aspired to contemplation and that they had an eye on just this end—not only rational but also irrational living things as well as the nature in plants and the earth that bears them—and that all had contemplation to the extent they were able to by nature, with different things obtaining contemplation in different ways, some genuinely, others in virtue of a mimetic image of it? Could anyone tolerate the strangeness of this idea? Well, why not? It has come to us, and there is no danger in playing with one's own ideas.¹⁰

His students are supposed to find themselves entertaining a half-serious, suggestive thought that at first commands no serious commitment (notice the 1st person plural λέγοιμεν and the curious δῆ in the opening phrase παίζοντες δῆ)¹¹—before they are supposed to realize its powerful economy and clarity. Plotinus does here what he is best at doing: not the introduction of original philosophical doctrine by means of a nomenclature of custom-made terminology and novel assumptions, but rather some radical shifting and destabilization of our familiar perspective, an unsettling that relies, initially, on entirely *familiar* concepts and circumstances. Imagine the situation: The group of students he addresses are aspiring philosophers who, of course, listen to him, read him, striving all the while to θεωρία, to a conscious understanding and awareness of reality; they themselves engage in θεωρία, no doubt, and are then told to their surprise and initial amusement that, in a manner of speaking, the whole of nature is just like them. What

¹⁰ *Enn.* III.8 [30] 1.1–10: Παίζοντες δῆ τὴν πρώτην πρὶν ἐπιχειρεῖν σπουδάζειν εἰ λέγομεν πάντα θεωρίας ἐφίεσθαι καὶ εἰς καὶ εἰς τέλος τοῦτο βλέπειν, οὐ μόνον ἔλλαγα ἀλλὰ καὶ ἄλογα ζῷα καὶ τὴν ἐν φυτοῖς φύσιν καὶ τὴν ταῦτα γεννῶσαν γῆν, καὶ πάντα τυγχάνειν καθόσον οἶόν τε αὐτοῖς κατὰ φύσιν ἔχοντα, ἄλλα δὲ ἄλλως καὶ θεωρεῖν καὶ τυγχάνειν καὶ τὰ μὲν ἀληθῶς, τὰ δὲ μίμησιν καὶ εἰκόνα τούτου λαμβάνοντα—ἄρ' ἂν τις ἀνάσχοιτο τὸ παράδοξον τοῦ λόγου; ἢ πρὸς ἡμᾶς αὐτοῦ γινομένου κίνδυνους οὐδεὶς ἐν τῷ παίζειν τὰ αὐτῶν γενήσεται.

¹¹ δῆ in second position has here clearly no connective force (for all we know, this is the very beginning of a long tractate), but rather lends ironic emphasis to the participle.

they are supposed to understand about nature is no more and no less than what they are supposed to understand more fully about themselves and practice: the seemingly elusive but in reality powerfully productive process of contemplation.

The English term commonly used in this Plotinian context to translate the Greek θεωρία, 'contemplation', is in fact entirely appropriate, unless it is understood in its new age sense of 'meditation', as a Zen Buddhist might be said to contemplate the tip of a pine tree to induce an altered state of subjective consciousness. Rather, to contemplate something (*contemplari*) is to observe something with focused attention from a vantage point (*templum*); moreover, when one contemplates something, one might well do so with a view to intending it such that it becomes manifestly present, either now or in the future.¹² In the light of what Plotinus says at III.8 [30] 6.33, where he associates 'thorough learning' (καταμάθησις) with θεωρία, it seems that for Plotinus θεωρία primarily involves the beholding of a concept or an intellectual reality in such a way that one aims at, and gradually succeeds in, understanding it. But there he is talking about θεωρία found in more developed, conscious forms of life; when Nature is said to 'contemplate', what is meant is a sort of (presumably) non-propositional intro-spection and purposeful ex-pression wrapped up in one. One could say, perhaps, that Nature exercises a holistic, albeit rudimentary but nevertheless pervasive awareness of the 'phenomenal' possibilities contained in the realm of Soul (and by implication Intellect) so as to bring them about in the physical world.¹³ 'Phenomenal' here both in the philosophical and colloquial sense.

So let us suppose, Plotinus suggests, that it is not just *us* (*qua* scientists, artists, human beings) who are 'contemplators', but that everything else in the natural world, *qua* integral part of Nature, is likewise engaged in θεωρία of some form: animals and plants in whatever they are doing, and every item in the inventory of Nature. Startling as the idea may be, it does not take long to get used to it, for its oddity lies not in its

¹² The German word 'Betrachtung' used by Harder seems less appropriate, except that it nicely captures θεωρία's connotation as an act of seeing.

¹³ Deck (1967) 68 f. argues with some justification that Nature's contemplation is self-directed: 'Plotinus seems to be describing nature as a knowing power, one which possesses its object internally, and whose object is itself'. This is true, except whatever Nature has in itself to contemplate is given to it by the actiologically prior hypostases.

inherent implausibility, but in the simple fact that it bears the hallmark of unfamiliarity: no one has stated the matter in quite this way. It is not only us humans who are gifted with the desire to understand so famously advertised by Aristotle, but all of Nature; and again, it is not the case that Nature is in the benevolent grip of divine reason, as the Stoics supposed, and has become an orderly cosmos because of *that*, but rather every piece and part of the natural world bears the signature of contemplation—not all of them in the same way and to the same degree, of course, but nevertheless, they all contemplate, down to the last rudimentary organism.

One problematic consequence of this thought seems to be that a whole lot of what we humans do, both as children and grown ups, and what we would commonly *not* classify as acts of contemplation, would, on Plotinus' strange idea, turn out to be actions that are in some meaningful way linked to contemplation, 'playing', for example (1.10), or 'action' (πρᾶξις), regardless of whether this is something we *have* to do or something we *want* to do (1.15 ff.). Plotinus embraces this consequence and boldly asserts that, indeed, whatever we humans do, either in play or in earnest, is part and parcel of Nature's θεωρία and must be construed as 'a serious effort towards contemplation' (1.15). In passing, Plotinus directs our attention to the important relationship between contemplation and action, a relationship to which he will return later. Here he pushes on, gets deeper into a host of questions that his playful idea gives rise to. And so, the last lines of III.8 [30] 1 lead us directly into a serious discussion of Plotinus' philosophy of nature: the playful opening remarks suddenly turn into a series of difficult questions of fundamental philosophical importance. Since the narrative progression of the beginning of this treatise illustrates so well on a literary level the very point Plotinus is trying to make, it is obvious that the opening of III.8 is a very carefully composed text indeed.

IV

It is worthwhile to linger over the last lines of this first chapter, where Plotinus lays out the full scope of the problems that have been raised by his 'playful' idea. Unfortunately, the text is somewhat obscure at this point. If one accepts the text as emended and understood by

modern editors,¹⁴ one could translate lines 1.18–24 with Armstrong as follows:

But we will discuss this later: but now let us talk about the earth itself, and trees, and plants in general, and ask what their contemplation is, and how we can relate what the earth makes and produces to its activity of contemplation, and how nature, which people say has no power of forming mental images or reasoning, has contemplation in itself and makes what it makes by contemplation, which it does not have.¹⁵

To begin with, editors commonly agree that the strange locution καὶ πῶς at the end of this passage must have originated as a marginal gloss and should be deleted.¹⁶ Likewise it is supposed that the equally bizarre relative clause just before καὶ πῶς cannot be understood straightforwardly, as that would create a direct contradiction: the hortatory clause ‘Let us state how nature contains contemplation, which it does not have’ seems to make little sense. So Dodds, in a philological article published in 1956, suggested that the last clause ought to be understood as alluding to the opinion of Plotinus’ opponents implicitly referred to in 1.22 (φασί); all one has to do is slip in a ‘supposedly’, or ‘ostensibly’, or ‘angeblich’ in German.¹⁷

Dodds’ suggestion smoothes over an apparent paradox, but it introduces a nuance that is plainly not in the text although it easily could have been. I therefore wonder whether the passage was not supposed to sound enigmatic and paradoxical, in a spirit of continuing the playful and baffling tenor of the opening of this work. Since the Greek does not seem to be impossibly convoluted or ungrammatical, and since the text is solidly supported by the manuscripts, nothing prevents us from translating what the Greek says and follow the sense wherever it may lead us. And so, what the Greek says is:

¹⁴ *Enn.* III.8 [30] 1.18–24: ἀλλὰ ταῦτα μὲν ὕστερον· νῦν δὲ λέγωμεν περὶ τε γῆς αὐτῆς καὶ δένδρων καὶ ὅλως φυτῶν τίς αὐτῶν ἡ θεωρία, καὶ πῶς τὰ παρ’ αὐτῆς ποιούμενα καὶ γεννώμενα ἐπὶ τὴν τῆς θεωρίας ἀνάξομεν ἐνέργειαν, καὶ πῶς ἡ φύσις, ἣν ἀφάνταστόν φασι καὶ ἄλογον εἶναι, θεωρίαν τε ἐν αὐτῇ ἔχει καὶ ἃ ποιεῖ διὰ θεωρίαν ποιεῖ ἣν οὐκ ἔχει, καὶ πῶς. Henry-Schwyzler as well as Armstrong propose the deletion of καὶ πῶς at the end, following Müller.

¹⁵ Armstrong (1967) 362 f.

¹⁶ Armstrong therefore does not translate καὶ πῶς, and Corrigan (2005) 86 brackets it.

¹⁷ See Dodds (1956). Deck (1967) 118 seems to accept Dodds’ general interpretation of the sentence.—The alternative suggestion, to read καὶ πῶς (enclitic) and to translate ‘which it also in some sense does not have’ is rejected by Dodds as impossible Greek, even impossible Plotinian Greek, and I tend to agree with that.

But more about that later; as to now, (a) let us state with regard to the earth itself and the trees and plants in general what their contemplation is, (b) how we shall trace back what is made and generated by Nature to the activity of contemplation, and how Nature, which they call incapable of forming mental images and devoid of reason, both (c) possesses in itself contemplation and (d) makes what it makes by a contemplation it does not have, and how that is so.

As to the last few words of the passage, I take it that the relative clause ἣν οὐκ ἔχει is defining rather than descriptive (as Armstrong and Corrigan take it when they separate the clause ‘which it does not have’ from ‘contemplation’ by a comma).¹⁸ That is to say, we are not talking about Nature’s θεωρία of which some people happen to think that Nature has no such capacity; rather, Plotinus announces two points he wishes to make (τε...καί), first that Nature *does* have within itself a capacity to contemplate *and* that there is another θεωρία it does not have, but on account of which Nature is nevertheless productive. Since this latter form of θεωρία too needs to be clarified, I take it that the last two words καὶ πῶς, unless they really do form an intrusion, would have to refer to what has just been stated so paradoxically (that nature produces on account of something it does not have), *i.e.* the phrase promises clarification of the puzzling relative clause, rather than being a redundant repetition of the καὶ πῶς in 1.22. Plotinus is in the habit of tacking just this kind of isolated phrase on to a sentence, indicating that he is about to make the transition to the explanatory mode.

What the passage so understood promises is a clarification of exactly four separate though related questions: 1. What is the cognitive activity of things like earth and plants? 2. How can we understand Nature’s products as products of a cognitive ἐνέργεια, *i.e.* how does the θεωρία in Nature *function*? 3. How does Nature come into the possession of this kind of contemplation, and, finally, 4. how is it to be understood that Nature produces on account of another contemplation which it does not have?

These multiply nested questions anticipate the complexity of the discussion that follows in which we hear a great deal not only about the rudimentary cognitive ability of Nature, but also about the superior cognitive activity of the higher hypostasis Soul. I take it that question 1 (establishing the cognitive aspect of the activity of Nature) is answered

¹⁸ See Armstrong (1967) 362 f. and Corrigan (2005) 86.

in the immediately following chapter 2; Question 2 (how contemplation becomes productive) is discussed in chapter 3; Question 3 (Where does this contemplation come from?), *i.e.* the difficult point that Nature's contemplation is not autonomous but itself the product of another, higher form of contemplation, is discussed in chapter 4; and finally, how precisely it is that contemplation on a higher level becomes productive on a lower level while retaining the character of contemplation, albeit an inferior one, is spelled out in chapter 5. Chapter 6 then reaffirms the doctrine of the dependency of action on contemplation on the human level, and chapter 7 universalizes the view expressed so far: 'All things come from contemplation and are contemplation.' (7.1 f.)

V

What stands in the background, and supports the whole argumentation as a foundational assumption, is the doctrine laid out in III.8 [30] 6 (the section in which Plotinus becomes 'serious', 6.16) that any kind of *πρᾶξις* or activity, be it purely theoretical or practical, involves introspection, observation, contemplation, whatever we may call it, in short *θεωρία*. In case this still sounds counterintuitive because contemplation might appear to be the very opposite of production and outward directed action, Plotinus insists that consciousness is both the starting point of any kind of activity and in an important sense also its end point. Every action necessarily originates in some sort of prior conception of what the action is supposed to be about, and this very action in turn makes something visible that can again become an object of *θεωρία*, either one's own or somebody else's. Examples for this kind of nexus abound in the human realm: an artist's painting is not just the expression of an artistic idea, but the painting itself becomes an idea, an icon, a vision in the consciousness of the beholder. And so with any other kind of *πρᾶξις*. In each case, it is these idealistic end points of actions, their inception *in* consciousness and their appreciation *by* consciousness, that Plotinus asks us to focus on and to agree to his thesis that every activity and process, no matter how basic, natural and instinctive, is of this kind, arising out of, and resulting in, contemplation.

If this is how things are supposed to work in theory, how will they work in actual practice? In the example just broached (painting), the whole process of artistic production involves four aspects: the initial act of cognition (the plan, if you like), the agent artist, the finished piece,

and eventual the act of cognitive art appreciation. When we turn to III.8 [30] 2, we learn that in the case of Nature matters are actually more immediate and simple. For one thing, the craftsman/artisan analogy of creation does not apply: even if we grant that, just as the studio of the artist, the studio of Nature is as filled with the products of a cognitively active agent, what we don't see in Nature are the hands and limbs that incessantly toil with their tools to produce the staggering variety of natural items. Plotinus rejects the idea of a Timaeon creator deity by slight of hand: the thought of a craftsman producing the natural shapes and colours of every kind by thrusting and levering (2.1; 2; 5 f.) is hugely implausible; there is no such agent.

But if the content of the cognitive principle is not imposed on matter by the agency of intermediate craftsman-like agents, then it must be the case, as Plotinus sees it, that Nature itself is or has just this ability to form and foster, either on account of some local forming principle that informs an individual natural substance or on account of a forming principle that inheres in the sum-total of Nature. The activity of these principles, then, must be the kind of θεωρία nature has, in answer to the first question: a certain cognitive and purely formal dimension, what Plotinus calls a λόγος, so as to take an object of cognition and impose it directly on matter where it appears as perceptible phenomenon. We need to return to this fascinating picture below.

For the moment, let us note that Plotinus chooses his words very carefully in these passages; he has evidently grappled hard with the difficulty of attributing a meaningful noetic capacity to Nature, the principle that animates the natural world. In a discussion in another great work, IV.3–5 [27–29], composed just before the present treatise on Nature and contemplation and entitled by Porphyry *Difficulties about the Soul*, Plotinus makes it clear that the noetic capacity that belongs to Nature (and he avoids the language of θεωρία in this context) involves neither φρόνησις nor φαντασία (roughly translatable with 'intelligence' and 'imagination'), see *Enn.* IV.4 [28] 13. Still, he insists that Nature is an 'image of intelligence' (ἰνδαλμα φρονήσεως) in virtue of which it does not 'know' (οὐδὲ οἶδε), but only 'makes' (μόνον ποιεῖ).

Having (in a manner of speaking) clarified this, we have already moved along a fair way to answering the second question, viz. how does the θεωρία of nature function? If the θεωρία of nature turns out to be the activity of a forming principle, a λόγος, then Nature simply 'informs' things in the realm of perception, since that is just what a forming principle does: to form matter in such a way as to express,

as far as possible, that which the λόγος stands for. Since the outcome of this kind of contemplation is the ever-changing iconography of the physical world, and not science, the kind of contemplation we need to attribute to Nature is only of a rudimentary sort, as Plotinus goes on to explain in III.8 [30] 3. To use a modern analogy, we could say that it amounts to no more and no less than enzymes ‘reading’ a cell’s genetic code and determining the cell’s functioning accordingly. Plotinus does of course not speak in those terms, but I suppose he would not have been disinclined to draw attention to this analogy—if it is just an analogy and not rather part of what is actually going on. For us, it seems nearly impossible not to understand Plotinus’ ‘forming principle’ in each living organism as an anticipation of the discovery of the genetic code and the mechanisms by which it is translated into features of the living cell. When the information contained in the long permutations of the code is deciphered by different chemical substances and expressed in the appearance and functioning of the organism, the process does seem to possess traces of what it is to think and to make; yet it involves no reasoning, deliberation, or even imagination. However precisely this transition from pure code and aphenomenal information to the living phenotype is to be understood—one could do worse than describe it with Plotinus as an activity that looks very much like introspection and expression, in short θεωρία.

At this point, and before we move to trace Nature’s contemplation back to the noetic activity of the higher hypostases, we need to pause to take in the striking oddity of Plotinus’ thesis: the idea that thought does not require or presuppose a brain that does the thinking, but that thought is prior to it, is familiar enough from other areas of Plotinus’ philosophy. However, here we are invited to accept the further view that thought also does not require an agent to become an action. How can this be? Plotinus of course has an answer, but it is not quite to be found here in our text. In fact, we might well note a serious omission on the part of Plotinus in this discussion. For how can this fundamentally idealistic thesis, that a rudimentary and blurred cognitive activity of Nature immediately expresses itself in the perceptible world, effortlessly and without the intervention of a divine craftsman, be at all plausible? Where it runs up against our intuitions is, of course, precisely at the point at which the mental is supposed to flip over into the phenomenal, where the sensible world emerges. What precisely facilitates this ontological quantum leap?

To a large extent, the plausibility of Plotinus' version of an objective idealism outlined in the first chapters of III.8 [30] rests on the plausibility of his conception of matter. For it is of course when forms come to be in matter, or are somehow joined to matter, that the natural world appears. In III.8 [30] 2, Plotinus only broaches the concept of matter briefly without properly explaining what he means by it and how it facilitates the sensible appearance of immaterial form. All he says here is that 'there is a need of matter on which nature can work and which it forms' (2.4 f., trans. Armstrong). Evidently, the doctrines expressed in the early treatise *On Matter* (*Enn.* II.4 [12], esp. chapters 8–12) and elsewhere in the second *Ennead* are of crucial importance for an understanding of how all this is supposed to work.

In that earlier treatise on matter, Plotinus adopts a radical position that has traditionally been associated with Aristotle (although this association is highly problematic) rather than with Plato: the material substrate of the physical world is not some kind of unqualified or disorderly mass extended in space and functioning as the 'receptacle' of form, nor a quasi-substantial substrate that is the carrier of the physical attributes which, for their own existence, depend on it. Rather, matter is wholly unspecific and non-descript, something *entirely* devoid of any quality, quantity, form whatsoever, even corporeality.¹⁹ Since matter has not even traces of any kind of feature, it is unfortunately quite impossible to form a clear concept of it.

Nevertheless, in order to understand Plotinus' philosophy of nature, we need to press the issue and to inquire somewhat further into matter, and also into the relationship between matter and the previously mentioned λόγοι that play such a crucial part in Plotinus' lower ontology. One thing that is clear about the matter that underlies the physical world is that it is not a corporeal, three-dimensional substrate (as in later Neoplatonists),²⁰ but something that is *per se* deprived of any kind of feature, be it qualitative or quantitative. The other, more difficult point to grasp about matter is that Plotinus thought of it as a correlate to form, in fact as a necessary consequence of the process of emanation from

¹⁹ Cf. also II.7 [37] 2.30–32 where this is stated in the context of an argument that both matter and the formal qualities that appear in its domain are incorporeal.

²⁰ See De Haas (1997) and also G. Van Riel in this volume.

the One.²¹ For Plotinus, it is the very concept of ‘form’ that implies that there be something ‘formless’, that which is ‘other’ than the form and remains when one abstracts from it. At one point he says that it is ‘Otherness’ which ‘produces’ (ποιεῖ) matter, II.4 [12] 5.28 f.

One way to clarify this radical view is to draw on one of Plotinus’s own analogies:²² think of the duality of form and matter as one ought to think about the duality of, say, light and darkness. First, here is how not to think about them: what immediately comes to mind is an image of a light shining in the darkness and illuminating it. In a spontaneous kind of way we tend to think that light and darkness are two quite independent states of affair: there is light over here, and there is darkness over there. But this is a wrong-headed (Gnostic) way to think. What we have to understand is the apparent paradox that it is in fact the light’s shining that creates darkness. Imagine a state of affairs where ‘light’ is entirely unknown, unheard of, and non-existent: it would be wrong to say that everything else, whatever there is, is cast into darkness. It is cast in whatever, but most certainly not in darkness, because darkness is the light’s absence; but *ex hypothesi*, there was no such thing as light. Hence there will be no such thing as darkness. In the same vein, it is sound that creates silence, motion rest, sameness difference, life death, and in general, all the negative, privative states are necessarily constituted by their positive counterpart. And so, matter arises at once with the constitution of the world of forms, as its logical implication²³ (cf. II.4 [12] 4): matter is that which Forms form.

One upshot of this view is that it requires the assumption of matter in the intelligible world as well, since there most certainly are forms. And indeed, Plotinus embraces this doctrine:²⁴ matter exists in the intelligible realm also, intelligible or divine matter, or simply matter ‘there’, as he calls it in his discussion II.4 [12] 2–5. In fact, *qua* matter there does not seem to be anything that distinguishes matter in the realm of Intellect

²¹ The question whether matter exists independently or is generated by the One, and how, is controversial and has been discussed vigorously in recent years. See the forceful statement by O’Brien (1991) and the various publications of his sparring partners, both earlier and later: Schwyzer (1973), Narbonne (1993), Carroll (2002), Corrigan (1986), (1996a), (2005) esp. 116 ff. with further references.

²² The analogy of light is frequent in Plotinus; for our immediate context see e.g. II.4 [12] 10.

²³ Cf. the whole of chapter II.4 [12] 4, where he says at one point, 11: ‘How can you have form without something on which the form is imposed?’

²⁴ Smith (2004) 57 f. suggests that Plotinus is developing here a notion already present in the tradition.

from matter in the realm of Nature; for what could this distinguishing characteristic be, given that matter possesses no features whatsoever? The difference is, rather, that one matter is informed by intelligible life and therefore transfigured into ‘substance’, whereas matter here is the carrier of fleeting shapes and mere images—a decorated corpse (II.4 [12] 5.12–18).²⁵

Now, Plotinus claims that (physical) matter makes a crucial contribution to the formation of bodies;²⁶ however, remarks such as these should not distract us from the more important role played by what Plotinus calls λόγοι. Matter as such is in and of itself of course utterly indistinct and indefinite (ἀόριστος, cf. II.4 [12] 10); all it offers is supreme malleability when confronted with form (ἐνάγωγος εἰς ἅπαντα, II.4 [12] 8.21). The hard work of bringing about what we perceive as physical reality is done by a host of dynamic principles that make up the sum total of the realm of Nature. The *Lexicon Plotinianum*, quite appropriately trying to capture the wide range of meaning of this term even within this very specific context of natural formation, defines λόγοι as ‘rational, creative, formative principles, often as embodied in matter, often equated with εἶδος and μορφή’.²⁷ In Plotinus’ view, the world, such as it is, is not offering us a stable and tangible habitat in space and time because there happens to be matter; rather, that world emerges on account of innumerable individual formative principles that impose the information they are the bearers of onto the realm of pure possibility. Again, what we have to understand about these λόγοι is that, *qua* clusters or bundles of structure and form, they are not the attributes of other entities, say substances, which then bear their formal features; rather, the λόγοι are particular extensions of different aspects of the noetic realm, some simple, others exceedingly complex; they function like ‘abstract particulars’²⁸ that bring about those ontic items we take to be substances, as well as their many features. Even mass

²⁵ For a more detailed discussion of the origin of matter and the various distinctions scholars have discerned in Plotinus see most recently Majumdar (2007) 106–114.

²⁶ See II.4 [12] 12.1.

²⁷ See Sleeman and Pollet (1980) s.v. λόγος c.—Corrigan prefers the simpler translation ‘forming principle’, see Corrigan (2005) 115 and the discussion in Corrigan (1996b) 110–113.

²⁸ ‘Abstract’ in the sense that they are non-material. I am borrowing the term from Keith Campbell’s influential book (1990) and mean to suggest that Plotinus’ ontology of the natural world in certain respects resembles modern attempts to overcome a dualistic ontology constructed around the notions of substance and attributes.

and solidity can be accounted for in just this way: In II.7 [37] 3 (*On Complete Transfusion*) Plotinus makes it clear that corporeity (σωματότης) too is either something constituted by this structured conjunction of forms, or itself a form. It would be a mistake to think that this idealistic ontology somehow implied that the physical world is a mere illusion and not 'real'. Far from it; according to Plotinus, it is certainly as real as it possibly can be.

VI

It is now necessary to move on to another, equally difficult question, viz. how we are supposed to understand the suggestion, also made at the end of III.8 [30] 1 on the literal reading of the transmitted Greek, that the reason why nature produces by way of contemplation is to be sought in another kind of contemplation it does *not* have. Plotinus opens the discussion of this question at the beginning of III.8 [30] 4 and immediately answers it with a most startling piece of direct speech that comes right out of the mouth of Nature herself, *Enn.* III.8 [30] 4.1–15:²⁹

And if someone were to ask Nature why it makes, and if it cared to listen to the questioner and cared to talk, Nature would say:

It would have been necessary for him not to ask but to understand in silence, just as I am silent and not in the habit of talking. To understand what? That what comes to be is a vision of mine as I am silent,³⁰ an

²⁹ *Enn.* III.8 [30] 4.3–15: ἐχρῆν μὲν μὴ ἐρωτᾶν, ἀλλὰ συνιέναι καὶ αὐτὸν σιωπῇ, ὥσπερ ἐγὼ σιωπῶ καὶ οὐκ εἴθισμαι λέγειν. τί οὖν συνιέναι; ὅτι τὸ γενόμενόν ἐστι θέαμα ἐμοῦ σιωπῶσης, καὶ φύσει γινόμενον θεώρημα, καὶ μοι γενομένη ἐκ θεωρίας τῆς ὧδὶ τὴν φύσιν ἔχειν φιλοθεάμονα ὑπάρχει. καὶ τὸ θεωροῦν μου θεώρημα ποιεῖ, ὥσπερ οἱ γεωμέτραι θεωροῦντες γράφουσιν· ἀλλ' ἐμοῦ μὴ γραφοῦσης, θεωρούσης δέ, ὑφίστανται αἱ τῶν σωμάτων γραμμαὶ ὥσπερ ἐκπίπτουσαι. καὶ μοι τὸ τῆς μητρὸς καὶ τῶν γειναμένων ὑπάρχει πάθος· καὶ γὰρ ἐκεῖνοί εἰσιν ἐκ θεωρίας καὶ ἡ γένεσις ἡ ἐμὴ ἐκείνων οὐδὲν πραζάντων, ἀλλ' ὄντων μειζόνων λόγων καὶ θεωρούντων αὐτοὺς ἐγὼ γεγέννημαι.

Textual variants: 5 ἐμοῦ σιωπῶσης Coleridge: σιωπῶσάσης Creuzer, Dodds, Beutler: ἐμόν, σιώπησις *codd.* et Henry-Schwyzler, *ed. minor* 7 ὑπάρχει A: ὑπάρχειν Exy, *edd.*

³⁰ There is a considerable textual problem here. The transmitted form σιώπησις is difficult to accommodate syntactically and philosophically. If one kept the text unaltered, one might translate: 'That what comes to be is my vision, a silent plan [taking σιώπησις and θεώρημα as a hyndiadys] that comes to be naturally (or: a silence, and a plan that comes to be naturally).' The problem with that reading is that it makes the product of Nature's introspection silent, which it evidently isn't. —In addition, the possessive pronoun ἐμόν in predicative position after θέαμα is grammatically suspect (unparalleled in Plotinus; I have also not been unable to find a similar construction in Plato). It seems better to follow a suggestion made by Samuel Taylor Coleridge

object of contemplation that comes to be naturally, and that because I came to be from a contemplation of this sort it belongs to me to have a natural inclination towards contemplation. And my act of contemplation gives rise to an object of contemplation, just as geometers draw figures when they contemplate. I don't draw, but I do contemplate; even so, the lines of bodies arrange themselves and become real as a fall-out. I share the experience of my mother and the beings that generated me; for these too come from contemplation, and I came to be not because they did anything; rather, since they are greater rational principles I came to be when they contemplated themselves.

Nature, of course, would never say such a thing because, being caught up in her untrammelled interior vision, she neither pays attention to noise-making humans nor would she be in a position to reason with any one of them. Who is speaking, of course, is no other than Plotinus himself, and if we listen carefully, we may even discern the voice of a somewhat arrogant late-antique sage who reprimands the inquisitive student, essentially saying: 'Si tacuisses, philosophus mansisses'.³¹ The impression of aloofness is heightened by the indirect and impersonal mode of address *ἐχρῆν μὲν μὴ ἐρωτᾶν, ἀλλὰ συνιέναι καὶ αὐτόν*).

Another interesting feature of this passage is the way in which Plotinus explains by an analogy how the objects of nature effortlessly fall out of Nature's contemplation: this happens just as the lines drawn by geometers in their illustrations seem to 'fall out of' their mathematical reasoning. And indeed, there seems to be something inseparable about this type of geometrical calculation and its physical counterpart, where the abstract reasoning goes hand in hand with the physical illustration, and *vice versa*. In just this way, so Plotinus claims, do the limits of bodies, their peculiar quantities and qualities, 'fall out' of Nature's contemplation. If we assume that Nature's contemplation is nothing but the sum total of the activity of its formative principles (*λόγοι*), then we have already seen how this fall-out is facilitated by the boundless malleability of matter.

in 1817, who proposes to read *θέαμα ἐμοῦ*, followed by a circumstantial participle *σιωπώσης* (i.e. similar to the construction *ἀλλ' ἐμοῦ μὴ γραφούσης* a few lines below, cf. 4.9). However, in his translation Coleridge tries to capture the terse sense of the transmitted text: 'What then are we to understand? That whatever is produced is an intuition, I silent' (sic!). See Coleridge (1907) 166 note.

³¹ I propose to understand *ἐχρῆν* without *ἄν* as a counterfactual of the past (which is perfectly possible), rather than as a general prohibition.

The most important point made in the passage just cited is the claim that Nature contemplates in this way, and is empowered to do so, because it is the offspring of a higher soul and *its* inner life, which is constituted in turn by the living formative principles contained in Intellect:

I share the experience of my mother and the beings that generated me; for these too come from contemplation, and I came to be not because they did anything; rather, since they are greater rational principles I came to be when they contemplated themselves (III.8 [30] 4.10–14).

Plotinus repeats this point in III.8 [30] 4.27–29: ‘Nature’s contemplation is silent, but rather blurred; for there is another contemplation, clearer in sight, and Nature is an image of <this> other contemplation.’³²

The beautiful idea that Nature rests in silent contemplation we are already familiar with, but there are two further thoughts that demand explanation: first, the suggestion that Nature’s nature-forming contemplation is inferior to another kind of contemplation; and second, that this higher kind of contemplation is causally involved in bringing about Nature’s contemplation. How precisely is all this supposed to work? Plotinus does not spell it out, which is unfortunate, since the issues raised are among the most difficult aspects of Plotinus’ philosophy. What he does do is give us examples, or analogies, that aim to make us see, somehow, what he is driving at.

The first thought, that Nature’s contemplative productivity is an inferior sort of activity, is exemplified by a human analogy:

For this reason, what is produced by <Nature> is weak in every way, because a weak contemplation produces a weak object. Men, too, when their power to contemplate weakens, make action a shadow of contemplation and reasoning. Because if contemplation is not enough for them due to their souls’ being weak and incapable of grasping the vision sufficiently, when they are therefore not filled with it but nevertheless strive to see it, they are drawn to action, in order to see what they cannot see with their minds. So, when they make something, they themselves want to see it and contemplate it, and they want others to perceive it too...

Who, capable of beholding what is genuine, would deliberately go after its image? Witness too the duller children, who have impossible difficulties

³² *Enn.* III 8 [30] 4.27–29: καὶ θεωρία ἄψοφος, ἀμυδροτέρα δέ. ἑτέρα γὰρ αὐτῆς εἰς θεαν ἐναργεστέρα, ἢ δὲ εἶδωλον θεωρίας ἄλλης.

with theoretical learning and turn to crafts and manual labor (*Enn.* III.8 [30] 4.31–38; 43–47).

Embedded in this text is the universal claim (4.39 f.) that everywhere action is either a by-product of contemplation or a weaker substitute for it. This is an empirical claim and impossible to establish deductively from previously granted premises. All one can do, and all Plotinus does, is appeal to a commonly familiar example from which we can somehow see, universalizing, that the claim commands respect. Action certainly seems to be derivative, as it necessarily presupposes some kind of intention or plan that makes a ‘doing’ an ‘action’, and not merely a random activity. But action can also be a way to figure something out, learning by trial and error and practice. That kind of action is evidently inferior to contemplation, but what it aims at, equally evidently, is some sort of insight that the soul will have once the action has been carried out successfully.

So let us grant that if Nature’s activity and action (which, as we have seen, is at once cognitive and creative) is dependent on some other form of cognitive activity, then it will turn out to be something that is ontologically posterior. But why should Nature be so dependent? Why is it not rather the case, as in Aristotle’s system, that Nature is some kind of (relatively) independent and autonomous principle of motion and rest? The thought that Nature *qua* active formative principle is the product of the contemplative activity of Soul is not explained (at least not in this context); moreover, it does not seem to be an empirical claim either, a claim that could be supported by a few salient and well-chosen examples. And yet, what we get from Plotinus is yet another analogy to illustrate his point:

But, since we have stated the way in which, with regard to Nature, generation is contemplation, let us proceed to Soul, which is prior to Nature, and say how its contemplation, its love of inquisitive learning and the full result of what it has come to know have turned it into a vision entirely and made Soul to produce another vision. Just so art produces: whenever each art is complete, it produces another, smaller art, as it were, the size of a toy which has a trace of everything in it (*Enn.* III.8 [30] 5.1–8).

It would be too easy, and presumably unfair, to censure Plotinus for not spelling out how precisely this process of the propagation of mind and thought is supposed to unfold. For what we are looking at here is an axiomatic principle, a statement about what mind is and how mind works as ὁρχή of everything. But what are we supposed to understand

about the nature of Mind and Soul when Plotinus says that it produces just as art produces, and that whenever each art is complete, it produces another, smaller art, as it were, the size of a toy which bears traces of the entire art in it?

Perhaps one could illustrate the point again by means of an analogy of our own, music. It is one thing, and the prerogative of our highest intellectual powers, to compose music; another, to be able to read music with such brilliant clarity as to literally 'hear', in one's mind, the music by simply taking in the score; it is a third thing to practice and play that same music on an instrument, and yet another thing to appreciate it passively in the concert hall or living room, and to be moved by it emotionally. All these activities involve different levels of our cognitive faculties, appreciations and desires. Moreover, even if these different levels of cognition occur in different persons, they are by no means independent from one another. It is certainly not the case that the lowest form of musical appreciation (snapping one's fingers, say) evolves somehow into the highest and most accomplished manifestation of the art (composition); rather, and quite clearly, the order of ontological dependency works the other way round: people share and appreciate music on an emotional level because there are composers of songs and operas and symphonies that are played by gifted performers. You can have the higher activities without the former, but not the other way round. The same goes for Plotinus' ontology: we have the mass productivity of Nature because of formative principles that are themselves not part of Nature but belong to and exist on a higher ontological plain.

What kind of 'because' are we dealing with here? According to Plotinus, the causal relationship cannot just be a formal or a final one; efficient causality must be involved as well. What we can gather from the example is that the more privileged cognitive activity somehow establishes and devolves into lower forms of essentially the same kind of activity. It is not in the nature of a melody or song, once conceived, not to be played or sung, not to be written down, and not to be taken up by others in the spirit of imitation and interpretation. A song's inherent power (or lack thereof) establishes the degree of its reception and the frequency of its repetition. And so with everything else: once conceived, invented or clearly understood, the conceptual gravitates towards becoming an affair external to the mind who so conceived it; it wants to be taught, propagated and communicated—become part of the larger 'phenomenal' world. If this is the way the mental operates,

it follows that any orderly and formally regulated process in the phenomenal world can be understood as the expression, or emanation, if you like, of some higher, more privileged, yet less tangible cognitive momentum. As Plotinus puts it elsewhere, the soul 'receives from There and at the same time distributes here' (*Enn.* IV.8 [6] 7.30).

On this model it becomes not only attractive but quite natural to see contemplative and productive Nature, *natura naturans*, as the offspring of a higher form of psychic activity.³³ This spiritualization of the entire universe, both from the top down and from the bottom up, is the core commitment in Plotinus' natural philosophy; in a sense, it is the apex of ancient Greek speculation about nature, a long time after it began with the crude materialism of the Ionians. This is true, even if, under the overpowering influence of Aristotle's *Physics* and Plato's *Timaeus*, Plotinus' successors reverted to an essentially non-monistic view of the world populated by radically different kinds of principles such as universal forms, creating deities, and a material substrate once again endowed with an ontological status in its own right.

³³ In a general way, O'Meara (1985) is right to point out the importance of Aristotle's conception of the prime mover for Plotinus' entire ontology, but I think it is misleading to say that 'Nature, the lowest level of soul, emerges in III, 8 [30], chapter 2 very much as a sort of unmoved mover' (261). On the contrary, Nature's contemplation is moved and motivated by the higher intelligible reality of the Soul.

CAUSALITY AND SENSIBLE OBJECTS: A COMPARISON BETWEEN PLOTINUS AND PROCLUS

Chiara Russi

I. Introduction

As its starting point, this paper takes the results reached in some recent publications concerning Plotinus' conception of the sensible world. These studies provide a new, substantially coherent picture of Plotinus' understanding of the status and functions of matter, the causality at work at the lower levels of reality, and the relationship between actuality and potentiality. A study of these topics based on a careful reexamination of treatises that have typically received little scholarly attention makes it possible to assess Plotinus' remoteness from the chief doctrines of Aristotelian physics.

Once the complete incapability of prime matter to substantially join form (including elemental forms) is established on the basis of *Enn.* III.6 [26], *On the impassibility of things without body*, sensible objects are revealed to be mere aggregates of 'all qualities with matter'.¹ It would be inconsistent, therefore, to talk in terms of a causality associated with spatial and temporal change and, more generally, with 'physicity'. Along these lines, Michael F. Wagner, in his essay 'Vertical Causation in Plotinus', emphasizes that only bodies which can be defined as 'noumenic' (*i.e.* as being real entities) can also be real causal agents. These 'noumenic' bodies differ from lower bodies. The latter are not 'physical bodies', endowed with an actual substance (one which is not an intelligible substance), but 'phenomenal' bodies. The term 'phenomenal body' designates not a particular ontological status but the simple fact of being the object of sense-perception.²

The extension of these two tenets (the absence of a form-matter relationship and the sole efficaciousness of intelligible causality) to the

¹ See Plot., *Enn.* II.7 [37] 3.4–5. All Plotinian quotations are drawn (occasionally with slight modifications) from A. H. Armstrong's translation in the Loeb Classical Library. The Greek text of the *Enneads* is that of P. Henry and H.-R. Schwyzler's *editio minor*.

² See Wagner (1982) 57 ff.

whole realm of becoming entails that the notion of potential as understood in Aristotelian terms (*i.e.* as a condition proper to a substratum capable of coming to actuality), becomes completely meaningless. It would be incorrect to claim that bronze is the 'potential statue', because bronze and the statue are two distinct actual existences, between which there is no substantial continuity.³ But even when substantial continuity exists, as in the case of the individual who becomes an actual grammarian, while continuing to be herself, it would be incorrect to say that she previously was a grammarian *potentially*: the individual, or, more precisely, her rational soul, the real subject of the realization of the different acts (grammarian, musician etc.) 'is not these things potentially, it is the power of these things'.⁴ As Narbonne notes in his commentary to II.5, Plotinus' conception of reality includes both active potencies of a strictly formal nature (though endowed with different degrees of efficaciousness) and the complete inefficacy resulting from the exhausting of such potencies, *i.e.* prime matter.⁵

Every type of causality, even the one that governs the generation and the maintenance of the sensible cosmos, both as a whole and in all of its parts, is in fact a strictly intelligible causality: in the specific case of the causation of the sensible world, it is a psychical causality. In positing the soul as the basis of the cosmos, Plotinus proves consistent with the teaching of Plato's *Timaeus* and *Laws* X; indeed, Plotinus can be seen to radicalize Plato's assumptions to the point of excluding the bodily even from the rank of causes that are secondary and operate by necessity. This radical denial of the substantiality and efficaciousness of sensible aggregates, and the equally radical reduction of potentiality to actuality or the active power (and hence activity) make it possible to redefine the relationship between Plotinus and Aristotle's ontology and categories. In the wake of scholars like Bréhier and Wurm, Chiaradonna has shown that Plotinus does not regard the transposition of Aristotle's category of substance into a different ontological system (the Platonic one, where this category needs to be integrated with the notion of intelligible substance) as an operation sufficient in itself to solve the inconsistency of Aristotle's theory. Aristotelian views on substance, as

³ See II.5 [25] 2.8 ff.

⁴ See II.5 [25] 3.22. In this context, I prefer to translate δύνάμις as 'power' rather than 'potentiality', as Armstrong does.

⁵ One can find a very close and consistent analysis of these issues in Narbonne (1998) 65 ff.

much as those on predication and movement, are open to a thorough criticism, which actually stems from within Aristotelian philosophy, ‘a partire dalle aporie che essa comporta’.⁶

The above points clearly reveal certain features of the Plotinian theory of the sensible world, features which are conspicuous not only with respect to the assumptions of mainstream scholarship on Plotinus, but also in the context of the Middle- and Neoplatonic tradition. One of the characteristic traits of Plotinian philosophy is the fact that Plotinus keeps a considerable distance from the other figures of his school, who almost unanimously tend to complement their own ontological framework with Aristotelian doctrines.⁷ This, then, is the main point that I wish to develop in the present paper: the untenability of the hypothesis of a homogeneous Neoplatonism smoothly progressing from Plotinus to Proclus as if from the implicit to the explicit, from a simple (if ingenious) outline to a complete philosophical system. In the past, the practice of using Proclus as a criterion for the interpretation of Plotinus has meant that the divergences between these two philosophers have been regarded as mere exceptions to their general agreement.

A careful analysis of Plotinus’ conception of the sensible realm and of its relationship with Aristotelian physics now makes it possible to acknowledge the fact that the most familiar differences between Plotinus and Proclus (those emphasized by Proclus himself), namely those concerning prime matter and the undescended soul, are by no means isolated instances. Rather, such differences are indicative of a deep opposition between the two philosophers, an opposition deriving from divergent conceptions of causality.

In the following pages, I endeavour to substantiate the claims that (i) Plotinus’ Platonism constitutes an integral and consistent theory and (ii) that Plotinus occupies an exceptional position in the Neoplatonic tradition. I shall do so by examining specific aspects of the causality that accounts for the generation and organization of lower living beings. To counter the suggestion that Plotinus’ causal framework precludes that of Proclus, it is necessary to begin by describing the basic tenets of Proclus’ theory of causation and to seek for their possible antecedents in Plotinus. This analysis will be found to suggest that Plotinus treats

⁶ See Chiaradonna (2002) 37.

⁷ Exceptions to this trend within Neoplatonism are represented by Nicostratus, Severus (both rejecting Aristotelian categories) and, as generally known, Atticus. See Dillon (1977) 262–263, Donini (1982) 113–114 and (most recently) Karamanolis (2006).

the same topics as Proclus but in a completely different manner. By way of conclusion, I aim to illustrate what is distinctive of Plotinus' position, namely the following three points: (i) that Plotinus' special causal 'dualism' does not consist of an interaction between a formative principle and a potential substrate, but in a progressive separation of the external activities of the same immaterial cause; (ii) that Plotinus does not conceive of production as a consequence of causal perfection, but as a necessary condition (almost a 'lesser evil'), so that the real power of the cause can realize itself according to its proper modality, which is never a productive modality; (iii) that Plotinus stresses the phenomenal (and non-ontological) nature of sensible objects. The above points suggest that Plotinus' considerations on matter, mass and elements are intended to explain not the ontological constitution of phenomena, but the sheer existence of phenomena, *i.e.* why and how such things are perceived by the senses.

II. *The interaction of δυνάμεις in the generation of living beings*

According to Proclus, (a) δύναμις has a twofold nature, and all that comes into being results from the combination of an active, or perfect, and a receptive, or imperfect, potency, in exact compliance with Aristotle's hylomorphism.⁸ Moreover, (b) the irradiations of the highest and most universal (ὀλκώτερα) causes function as a substrate for the gifts bestowed by causes which are progressively lower and more specific (μερικά). With respect to any given effect, the most universal principles might be described as the cause of its coming into being, while the less universal principles are the cause of its specific characterizations.⁹ It is possible to note that such a system, in which receptivity plays a crucial role for the realization of effects, implies a sort of 'dualism' of causes; a dualism mitigated, however, by the fact that receptive potentialities are brought about and endowed with their specific ἐπιτηδειότης by potencies that are themselves perfect. In his paper 'Puissance active et puissance réceptive chez Proclus', C. Steel emphasizes that, while not

⁸ One can find the most explicit attestation of a twofold δύναμις in Procl., *In Alc.* 122.9–11. In general, for the distinction between two δυνάμεις, see *Elem. Theol.* 78–79; *Theol. Plat.* III.34; 40; *In Parm.* IV 842.12–846.17; *In Alc.* 122.7–123.20; *In Tim.* II 1.375.1–4; 24–30.

⁹ These claims constitute the so-called 'Proclean law' (cf. *Elem. Theol.* 70–72).

completely autonomous, imperfect substrates are always independent of perfect potencies, which directly act upon them. The substrate of our cosmos, for instance, is actually independent of the ordering demiurgic cause, since it has already been provided with its existence and primary characteristics by those principles that are superior to the demiurge.¹⁰ Such an assumption falls within a general pattern of this kind: the One (in its role of first unlimited) is the cause of prime matter; the intelligible Νοῦς is the cause of matter ‘in disorder’, and so forth.¹¹ In the light of hylomorphic interaction, which accounts for the process of coming into being, potentiality is never reduced to potency. As potentiality stems from a more universal cause, it is always more generic than the potency that perfects it: this relationship between specific being, which is imparted by proximate principles, and generic being, which is instead derived from remote principles, seems to implement the Aristotelian pattern of the delimitation of genus by specific difference, and to develop it according to a vertical and productive causation.¹²

How does Plotinus deal with these first two issues? Regarding the double δύναμις, I would refer to Narbonne’s approach, already mentioned above, according to which Plotinian ἐπιτηδειότης ceases to be an antagonistic factor and, therefore, a factor of generation ‘tout court’. After all, there is only one δύναμις. Rather, Plotinus seeks to replace the combination of active potencies and receptive potentiality with a different kind of relationship.

It is worth focusing on the well-known passage of *Enneads* VI.7 [38] 5, in which Plotinus illustrates the process of the coming into being of the living man. Plotinus here begins by considering the soul and a specific λόγος of the soul; more precisely, the philosopher considers a soul that happens to find itself ἐν τοιῷδε λόγῳ.¹³ In VI.7 [38] 4, Plotinus asks: ‘what is it then to be a man? That is, what is it which has made this man here below, which exists in him and is not separate?’ The λόγος

¹⁰ See Steel (1996) 121. For the modalities of demiurgic causation in the light of procession, see Opsomer (2000).

¹¹ On these aspects of Proclus’ theory of causality, see *Theol. Plat.* III.6; 8; 21; *Elem. Theol.* 72; *In Tim.* II 1.387.5–388.28; for a detailed discussion on these features, see Van Riel (2001) and Van Riel’s contribution to the present volume.

¹² It is well known that for Proclus causal relations underlie logical relations, *i.e.* predication; if, therefore, the more universal causes imply the less universal, genera imply species, but not vice versa.

¹³ One can find a very close and brilliant commentary on these passages in Hadot (1987) 97 ff.; 219 ff.

Plotinus is seeking to define is a substance and productive principle, which, as such, cannot be a mere definition of the already existing composite. Besides, the definition ‘rational living being’ is a composite in itself: just like ‘snub nose’, it describes one thing in another. Starting again from the definition ‘rational living being’, which corresponds to ‘rational life’, Plotinus puts forward the hypothesis that the λόγος he is looking for might be ‘rational life’. However, since life is a gift of the soul, *i.e.* something deriving from the soul which is no longer simply a soul, man would end up being ‘an activity of the soul and not a substance’. Plotinus finally considers a third but equally untenable option: that ‘the soul is man’.¹⁴ Plotinus’ investigation, on the whole, rules out the following hypotheses: (i) that the λόγος of the living man coincides with its Aristotelian definition as a previously existing compound equivalent to ‘life without a soul’ (activity without substance); (ii) that the λόγος of the living man coincides with the rational soul (a substance without activity). Plotinus then poses the following question:

What is there to prevent man from being a composite (συναμφοτέρόν τι), a soul in a particular kind of forming principle (ψυχὴν ἐν τοιῷδε λόγῳ), the principle being a sort of particular activity (ὄντος τοῦ λόγου οἷον ἐνεργείας τοιῶσδε), and the activity being unable to exist without that which acts? For this is where the core forming principles are; for they are neither without soul nor simply souls. For the rational forming principles which make things are not soulless, and there is nothing surprising in substances of this kind being rational forming principles. Of what kind of soul, then, are the forming principles which make man activities? Of the growth-soul? Rather of that which makes a living being a clearer one and just because of that more alive. And the soul of this kind which enters into matter of this kind (ἡ δὲ ψυχὴ ἡ τοιαύτη ἡ ἐγγενομένη τῇ τοιαύτῃ ὕλῃ), just because this is what it is, being in a way disposed like this even without the body, is man; it makes shapes in body according to itself, and makes another image of man as far as body allows, just as the painter in his turn makes yet another image if this, a kind of still lesser man; it has the shape and the forming principle or traits of character, the dispositions, the powers, all dim because this man is not the first; and it also has other senses, which seem to be clear, but are dimmer in comparison with those before them and are images. But the man over this one belongs to a soul already more divine which has a better man and clearer senses. And this would be the man Plato was defining, and by adding ‘using a body’ he indicated that it rides upon the one which primarily uses a body, and the one which does so secondarily is diviner.

¹⁴ Cf. VI.7 [38] 4.28 ff.

For when the man who came to be already had sense perception, this soul followed on and gave a brighter life; or rather, it did not follow, but in a way attached itself (*προσέθηκεν αὐτήν*); for it does not go out of the intelligible, but united to it, has the lower soul in a way hanging from it (*οἶον ἐκκρεμαμένην ἔχει τὴν κάτω*), mixing itself in, forming principle to forming principle (*συμμίξασα ἐαυτὴν λόγῳ πρὸς λόγον*). And so this man, who is dim, becomes clearly visible by the illumination (*τῇ ἐλλάμπει*) (VI.7 [38] 5.2–31).

Let us first consider the fact that the rational soul can originate other living beings as well. In VI.7 [38] 6, Plotinus stresses the fact that the soul ‘was all things, but is active at different times according to different ones’. One should not be surprised at the fact that ‘the soul takes the body of a beast’ while also being man’s *λόγος*: in this case, the soul ‘gives the forming principle in it which belongs to that living thing in the intelligible world. For it possesses it, and this is its worse form of activity’ (VI.7 [38] 6.35–36). But how can an individual soul own the *λόγοι* of all living beings? The answer to this question lies in that peculiar relationship existing at the level of the rational-dianoetic soul between the whole and its parts. This level corresponds, in the hypostatic order, to the primary level of the universal soul, located in an intermediate position between (i) the noetic soul, which coexists with the Intellect, and (ii) nature. This relationship is somewhat similar to that between the whole and its parts at the level of the Intellect, each Form being all other Forms and ultimately the whole itself, intelligible and intellective at the same time. The individual soul also includes the totality of *λόγοι* in itself; however, because of its special activity of contemplation, which is not noetic but dianoetic (not the intellection of a whole by a whole, but a discursive reasoning about contents which are distinct both from the intellective subject and from one another), the soul actualizes only one *λόγος* at a time. According to Plotinus, ‘all souls are all things, but each is differentiated according to that which is active in it...and in that different souls look at different things and are and become what they look at’ (IV.3 [27] 8.13–16). This dialectic between parts and their wholes is further elucidated by means of the theory of twofold activity. The outcome of the internal or primary activity of an entity coincides with the contents that constitute such an entity. For instance, the Forms originate when the undifferentiated activity of *Νοῦς* turns upward, ‘looking’ at itself within its generating principle as in a mirror. The outcome of the external or secondary activity of an entity is a different entity, situated on a lower ontological level. The generation of the

soul, for example, starts from a still undetermined power flowing from the Intellect. This power coincides, in fact, with the external activity of the Intellect. It is further worth noting that the primary act of an hypostasis is part of the hypostasis itself (*e.g.* Forms are part of the Intellect). Moreover the secondary act of an hypostasis is part not only of the hypostasis itself but also of its primary acts: the soul, therefore, is a part not only of the Intellect as a whole, but also of the single Forms that constitute it. Likewise, nature and the sensible cosmos are a part not only of the universal soul, but also of the single souls that form it.¹⁵ If this pattern is understood as a dialectic between genera and species, it is evident, first of all, that individual souls are species of the universal soul (this being the outcome of the primary activity of the universal soul); secondly, it is clear that nature with its λόγοι and the cosmos with its living beings are species not only of the soul but also of individual souls.¹⁶

The aforementioned pattern contributes to explain why, in order to generate a man, the rational soul, which is all things including man (the superior and real man, *i.e.* man without a body), must act in accordance with a specific λόγος. For this λόγος is not a principle that informs the soul from above with its own specificity, but rather a specific activity (and hence a part) of the soul itself.¹⁷ We notice that (a1) the relationship here discussed is not a hylomorphic or pseudo-hylomorphic relation, one between an active potency and a receptive potentiality, but a relation between two potencies that are equally active, although one of them is more universal than the other. It can further be noted that (b1) the definition of where the soul is found (the 'being in' of the soul) expressed in the sentences 'a soul in a particular kind of forming principle' (VI.7 [38] 5.3) and 'a soul of this kind...in a matter of this kind' (5.12) cannot be understood as a delimitation of a genus by the species: rather, it is the more universal term (the soul)

¹⁵ See Andolfo (1996) 58 ff.

¹⁶ Only by thinking that a single rational soul is a universe with respect to the cosmos into which it descends, can one explain the internal freedom of the individual from the causal influences coming from the environment.

¹⁷ The ontological priority of the soul with respect to its λόγος is not immediately evident. Nevertheless, it can be deduced from the fact that λόγος is described as an activity, which accompanies with soul, in order not to remain without a substance ('without', Plotinus says, 'him, who acts'). In the same way, as previously mentioned, were man to be equivalent to 'rational life', he would be 'life without soul', an 'activity of the soul and not a substance'.

that lies ‘in’ the more specific and partial one (the natural λόγος, at 5.3, and the living being at 5.12). In II.1 [40] 5.18–23 the same pattern is found: the rational soul, which is of course individual but nonetheless universal,¹⁸ is responsible for perfecting each particular being; whereas nature is responsible for producing and vivifying it:

We, however, are formed by the soul given from the gods in heaven and heaven itself, and this soul governs our association with our bodies. The other soul, by which we are ourselves, is cause of our well-being (τοῦ εὖ εἶναι), not of our being (τοῦ εἶναι). It comes when our body is already in existence, making only minor contributions from reasoning (ἐκ λογισμοῦ) to our being.

In order to better understand these passages, it is necessary to recall the dialectic between parts and their wholes, genera and species that was outlined above: not only the universal but also the individual soul looks at nature as a part and species of itself. On this basis, it may be argued that the most universal and general principle perfects the most partial and specific one by endowing it with τὸ εὖ εἶναι: for in itself the latter was only endowed with τὸ εἶναι. Also, in III.3 [48] 4.6–13, it is possible to distinguish a λόγος συνάπτων on the one hand, which corresponds to the level of the universal soul or providence (conceived as an activity distributing individual and rational souls in a cosmos previously delineated by nature); and on the other, a λόγος ποιητικός, which corresponds to the level of nature and produces living beings that it endows with the lower psychic faculties. The process of generation, therefore, cannot be said to have reached complete fulfillment until the λόγος συνάπτων has endowed already animated beings with rational souls, thus connecting the whole cosmos with its intelligible principle.¹⁹

Given this framework, what does it mean to be ἐν τοιῷδε λόγῳ? The sentence in which this expression occurs simply appears to mean that the primary and more universal soul must be conceived as un-separated. In particular, this soul is not separated from those lower, external and

¹⁸ ‘Individual’ (...ἐκάστου) is not the same as ‘partial’ (μερικώς): while the former applies to objects that include the totality of λόγοι in themselves and does not imply a real distinction from the whole, the latter describes a part of the whole that is restricted, in its operation, by the intervention of many other parts. This idea of an individuality that does not coincide with partiality contributes to explain the freewill of the rational soul (see above, n. 18): as seats of the true self and of its freedom, rational souls alone (and not λόγοι σπερματικοί or the bodies) can be said to be individual.

¹⁹ A specific analysis of this issue can be found in Russi (2005).

partial faculties responsible for the production and maintenance of living beings: the most divine soul, as previously seen, ‘has the lower soul in a way hanging from it, mixing itself in, forming principle to forming principle’. However, when the primary soul casts a certain kind of λόγος, the outcome is always the coming into being of a certain kind of ζῶον. Living together with its own λόγος, the soul also lives together with the living being which has been produced by that λόγος: this is why at VI.7 [38] 5.12 the soul is no longer said to be ἐν τοιῷδε λόγῳ, but described as ἐν τοιαύτῃ ὕλῃ—matter (ὕλη) here presumably standing for the living being that has already come into being.²⁰

I now wish to return to Proclus and examine a further aspect of his conception of causation that appears to be an application of the aforesaid tenets. According to Proclus, in the generation of lower entities, (c) the most universal potencies are the first in proceeding and the last in withdrawing, whereas the most specific potencies are the last in proceeding and the first in withdrawing. The body, for instance, retains traces (ἐλλάμψεις) of the forms also after the death of the individual, because such traces have come to the body from a potency that is more universal than that by means of which, at a later phase, life has come to it. Bodily forms, therefore, are the last to leave the body; at any rate, they withdraw after life has come to an end.²¹

Plotinus deals with the same issue in the opposite way: the logical order, which in this case corresponds to the chronological order, in which single specifications come to determine living beings, is illustrated for instance in III.6 [26] 16.8–11:

if someone were to say that the basis of the horse is a mass of a certain size, and the size remains, our answer is that what remains in the matter is not the size of the horse but the size of the mass (τὸ τοῦ ὄγκου μέγα).

On the basis of instances such as this, we can conclude as follows: (c1) if there is anything that remains, even if only temporarily, in the body after the death of the individual, it is the lower and more partial potency.

²⁰ The same series of causal implications noticed in VI.7 [38] 5 is also evident in passages such as VI.4 [22] 15.8–27. On the ‘circle’ triggered by the psychic potencies in charge of generating living beings, see Tornau [1998] 281 and I.1 [53] 12.21–28.

²¹ See *Elem. Theol.* 70–71.

A comparison between the two philosophers with respect to issues (a), (b) and (c) points to some basic divergences in the conceptualization of the causal interactions involved in the generation of living beings. For Proclus, the act of producing the receptive substrate is a prerogative of the more perfect and universal causes, the efficaciousness of which remains in their products for the longest time possible; the act of perfecting such a substrate, on the other hand, is a prerogative of the lower and more particular causes, the efficacy of which lasts for a more limited period of time. By contrast, Plotinus posits no interaction between generic substrates and specific forming-principles: living beings, according to Plotinus, are endowed with existence and with their elementary configuration by the causes that are situated at the end of the ontological series and which are therefore the most particular. Such causes are not those which set the process of generation in motion, but rather the first causes to establish a contact with the body, and the last to abandon it. The idea that the various forms structure matter according to a logical (and at times also chronological) order is confirmed by certain passages of V.8 [31]:

All this universe is held fast by forms from beginning to end: matter first of all by the forms of the elements, and then other forms upon these, and then again others; so that it is difficult to find matter hidden under so many forms (V.8 [31] 7.18–22).

The act of perfecting living beings, conceived as the establishment of a connection between such beings and Being as a whole, is a prerogative of the highest and most universal causes that initiate the process of generation. Strictly speaking, however, these causes are never directly responsible for production: they impart not being (*τὸ εἶναι*) but well-being (*τὸ εὖ εἶναι*), and are the first causes to withdraw from bodies. This being the case, it is possible to pinpoint two main differences between Plotinus' and Proclus' general conception of causation. The first difference concerns the way in which the two philosophers preserve some form of dualism within their general monism. Within Proclus' monist solution (with reality as a whole undoubtedly springing from the One), it is nevertheless possible to identify a form of dualism: for every ordering principle, according to Proclus, operates on a substrate which, though in itself lower than the principle, has been brought into being by a productive principle that is higher than both. Because the substrate in question derives from a cause which is higher than the perfecting one, it possesses a certain degree of autonomy and ontological specificity.

Plotinus' causal monism is perhaps more radical than that of Proclus, for it grants no autonomy to the substrate of generation: the latter is seen by Plotinus as the cause neither of itself nor of its own specific receptivity. Moreover, according to Plotinus, the substrate of generation does not arise from a higher principle than that by which it is informed and perfected. I have previously illustrated, with regard to the generation of both individual beings and the whole cosmos, that the cause producing the substrate does not operate on a higher level than the connecting and ordering cause. This productive principle, therefore, is not independent from a higher plan of connection and organization. The productive principle (λόγος ποιητικός or σπερματικός) arises from the connective principle (λόγος συνάπτων or primordial λόγος) and is compelled by the latter to produce—*i.e.* to extend being (τὸ εἶναι) to something else—while awaiting the intervention of the primordial λόγος. This λόγος then assumes the task of connecting the products with the highest principle, *i.e.* of extending the εἶ to the products. This process is in accordance with the law stating that in order for εἶ to be infused into an object, the object in question must first exist: if it does not exist, it is necessary to bring it into being.

The second difference between Proclus and Plotinus concerns the notion of production. Proclus understands production, in all respects and to the very end of the πρόδος, as a sign of power. For Plotinus, on the contrary, production appears to be a kind of lower necessity, which serves a higher aim. In order adequately to assess the consistency of this second thesis, it is necessary to examine nature and its domain.

III. *Nature and fate*

According to Proclus, (d) nature is a hypostatic level (the last of all spiritual principles) provided with an essence of its own (for there exists a Henad of nature).²² Just like the soul and Νοῦς, nature has

²² Nature lacks both reason and imagination (cf., *e.g.*, *In Parm.* III 792.18: καὶ ἄλογος οὐσα καὶ ἀφάνταστος). Siorvanes (1996) 137–138 identifies 'imparticipable nature' with the 'unfettered' order of the gods, which is capable of remaining, procession and reversion: it would not be unreasonable to believe, therefore, that nature is also capable of accomplishing the ἐπιστροφή. However, on the basis of *In Tim.* I 1.10.16–21 and *Elem. Theol.* 17, such an hypothesis must be excluded. On Proclus' conception of nature, see *In Tim.* I 1.9.31–14.3; *Elem. Theol.* 21 (with Dodds commentary *ad loc.* in Dodds [1963] 208–209) and 111; *Theol. Plat.* VI.15–17; Rosán (1949) 115–116; Siorvanes (1996) 130–140; 152–53; Opsomer (2006b) 148–151.

an internal activity, thanks to which it remains in itself and preserves itself and its own contents (the λόγοι σπερματικοί); but nature also possesses an external activity, by means of which it endows the bodies with movement and makes sure that they act and suffer in compliance to necessity.²³

Furthermore, some passages of the *Commentary on the Timaeus* make it clear that nature connects lower realities to the higher, and particulars to universals.²⁴ Consequently, (e) fate, the potency in charge of governing those beings which pass away completely, and which coincides with nature itself, is a substance sufficiently unified to provide such beings with an internal order and an indefectible connection. Thanks to its internal unity, fate is also capable of regulating the physical realm in compliance with the motion of the eternal stars. Let us consider some relevant passages of *De Providentia Et Fato Et Eo Quod Est In Nobis Ad Theodorum Mechanicum*:

Starting from those innate notions we have established that fate is the cause of connected events. But let us now turn to the question as to what those connected things are (*Prov.* 8 26–28).²⁵

Where, then, should you put the things that are interconnected by fate (*eiromena*)? Examine the question, taking from the terms the meaning of what is to be connected (*eiresthai*). The term *eiresthai* indicates nothing else than that different things happening at different times are linked with one another and not isolated; and that, when they occur at the same time, though dissociated in place, they are somehow coordinated with one another. Hence, whether they are separated in place or in time, they are somehow brought into unity and into a single sympathy through the *heirmos* or connection. In general, connected things cannot have this state on their own account, but they need another cause that provides them with this *heirmos* or connection. According, then, to our common notion of ‘fate’, events that are ordered under fate are those that are interconnected; and according to the generally accepted understanding of ‘connection’, interconnected things are divided, dissociated either in place or time, though capable of being connected by another cause. Such things are moved by another and are corporeal. For things existing outside of bodies are either superior to both place and time or, if they have activities in time, seem at least not to occupy space. From all these premises the conclusion is evident: things governed and connected by fate must be things moved by an external cause and totally corporeal. And if

²³ See *Theol. Plat.* V.18.

²⁴ See *In Tim.* I 1.11.18–19.

²⁵ Trans. Steel (2007b).

this is established, it is clear that, in laying down fate as the cause of the connection, we will posit it as the ‘patron’ of things that are externally moved and corporeal (*Prov.* 10).

Taking this standpoint, we shall now ask ourselves what is said to be and really is the proximate cause of bodies and by what cause externally moved bodies are moved, animated and maintained, insofar as it is possible for them. Let us look first, if you agree, at our own bodies and see what the cause is that moves them and nourishes them and ‘weaves them anew’ and preserves them. Is this not also the vegetative power, which serves a similar purpose in the other living beings, including those rooted in earth [*i.e.* the plants]? It has a twofold activity: one is to renew that which is extinguished in the bodies, in order that they may not be dispersed entirely; the other to maintain each body in its natural condition. For to add what is lacking is not the same as to preserve the power of the bodies maintained by it. If then, not only in us and in other animals and plants, but also in this whole world there exists, prior to bodies, the single nature of the world, which maintains the constitution of the bodies and moves them, as it is also the case in human beings—for how else could we call all bodies ‘offspring’ of nature?—, this nature must be the cause of connected things and in this we must search for what we call fate (*Prov.* 11 1–22).

Thus, we have discovered the meaning of fate and how it is the nature of this world, an incorporeal substance, as the patron of bodies, and life as well as substance, since it moves bodies from the inside and not from the outside, moving everything according to time and connecting the movements of all things that are dissociated in time and place. According to fate mortal beings are also connected with eternal beings and are set in rotation together with them, and all are in mutual sympathy. Also nature in us binds together all the parts of our body and connects their interaction, and this nature can also be viewed as a kind of ‘fate’ of our body (*Prov.* 12 1–12).

From these passages it appears that fate, coinciding in this context with nature (see *Prov.* 11 and 12),²⁶ is in charge of coordinating bodily beings in their own realm (see the horizontal coordination in *Prov.* 10), and of establishing a connection between different ontological levels, by linking

²⁶ Although Proclus also specifies that certain things determined by fate, such as noble birth or glory, surpass the domain of nature (for it is impossible that natural events alone could bring such things about), many instances of the equation between nature and fate are to be found in Proclus’ works. For an explanation of this definition of fate as nature, see the digression on nature in the prologue of *In Tim.* I 1.9.25–14.3, in particular 12.26 ff. (and cf. Iamb., *Ad Sop.*, *ap.* Stob., 1.5.18: the very essence of fate consists in nature); *Theol. Plat.* V.25 93.24–25; V.32 119.7–19; *In Alc.* 134.3; *In Parm.* III 811.8–14. On the relation between fate and nature see too Linguisti’s contribution in the present volume.

transient things with the eternal, *i.e.* earthly things with the heavenly (see the idea of cosmic sympathy described in *Prov.* 12).

Let us now turn to Plotinus' understanding of these issues. It is worth first pointing out that, according to Plotinus (and, for that matter, according to Proclus too), nature, unlike the universal soul, is unable to ascend. Whereas 'the first part of soul..., that which is above and always filled and illuminated by the reality above, remains there' (*Enn.* III.8 [30] 5.10–11), according to Plotinus, 'what is called nature is a soul, the offspring of a prior soul with a stronger life, that quietly holds contemplation in itself, not directed upward or even downwards, but at rest in what it is, in its own repose and a kind of self-perception, and in this consciousness and self-perception it sees what comes after it, as far as it can, and seeks no longer' (III.8 [30] 4.15–21).²⁷ One here should bear in mind Plotinus' rule that a being turning towards the Father does not see the Father, but rather itself; whereas when it turns towards itself, it loses itself and sees something else, which is external, lower and weaker. What is interesting for the purpose of the present argument—as it constitutes a further difference with respect to Proclus—is the fact that (d1) since nature does not turn to the universal soul, it does not appear to endow itself with a peculiar content, in the same way as higher hypostases might: as previously mentioned, only by turning upwards is the product filled with substantial content, which is nevertheless distinct from the father's content. Besides, nature appears to lack the activity of essence by virtue of which products unceasingly turn towards their father so that they obtain a clear vision of themselves. IV.4 [28] 13.3–22 further contributes to elucidate this point:

...intelligence is primary, but nature is last and lowest. For nature is an image of intelligence, and since it is the last and lowest part of the soul, it has the last ray of the rational forming principle which shines within it, just as in a thick piece of wax a seal-stamp penetrates right through to the surface on the other side, and its trace is clear on the upper side, but faint on the lower. For this reason it does not know, but only makes (οὐδὲ οἶδε, μόνον δὲ ποιεῖ); for since it gives what it has spontaneously to what comes after it, it has its giving to the corporeal and material as a making, just as a heated body gives its own form to that which is next in contact with it and makes it hot, though to a lesser degree. For this

²⁷ See also II.3 [52] 18.10–13: 'it must be that the soul of the all contemplates the best, always aspiring to the intelligible nature and to God, and that when it is full, filled right up to the brim, its trace, its last and lowest expression, is this productive principle that we are discussing. This, then, is the ultimate maker.'

reason nature does not have an imaging faculty either; but the Intellect is higher than the power of imaging: the imaging faculty is between the impression of nature and the Intellect. Nature has no grasp or consciousness of anything, while the imaging faculty has consciousness of what comes from outside: for it provides the one who has the image with the faculty to know what he has experienced. The Intellect itself, instead, is origin and activity that derives from the active principle itself. The intellect, then, possesses, while the soul of the all receives from it for ever and has always received, and this is its life, and what appears at each successive time is its consciousness as it thinks; and that which is reflected from it into matter is nature (τὸ δὲ ἐξ αὐτῆς ἐμφαντασθὲν εἰς ὕλην φύσις), in which—or indeed before which—the real beings come to a stop (ἐν ᾗ ἴσταται τὰ ὄντα), and these are the last and lowest realities of the intelligible world (καὶ ἔστιν ἔσχατα ταῦτα τοῦ νοητοῦ): for what comes after, at this point, is imitation (μιμήματα).

All principles higher than nature have a distinctive formal content, which corresponds to a peculiar kind of self-apprehension: Νοῦς has the intellection of Forms, and this represents primary self-apprehension: an ‘activity that derives from the active principle itself’. The universal soul, on the other hand, possesses not intellection but an imagination of the contents that are eternally acquired from Νοῦς, and which the universal soul sees as primordial λόγοι: this is the soul’s specific self-apprehension. Nature has ‘no grasp or consciousness of anything’; accordingly, it has no essential contents that constitute an ontological level in themselves and no proper essential activity. This seems to be the meaning of passage IV.4 [28] 13.19–23, where Plotinus says that in nature, ‘or indeed before it, real beings come to a stop’; it can be argued that these real beings are the still essential λόγοι of the universal soul.²⁸ One should add that lack of self-apprehension is the origin of the production of sensible objects, the contents of which lie outside the knowing subject. III.8 [30] 6.10–19 is revealing in this respect:

²⁸ For nature as an unconscious maker, also consider II.3 [52] 17.3–25, featuring a simile analogous to that of the seal-stamp coming from outside: ‘that which makes on the level of nature is not thought or vision, but a power which manipulates matter, which does not know but only acts, like an impression or a figure in water; something else, different from what is called the power of growth and generation, gives it what is required for this making... Since its power to make is derived, and it is filled with forming principles which are not the original ones, it will not simply make according to the forms which it has received, but there would be a contribution of its own, and this is obviously worse... This is the lowest soul’s contribution to the whole.’

What someone receives in his soul, which is rational form—what can it be other than silent rational form? And more so, the more it is within the soul. For the soul keeps quiet then, and seeks nothing because it is filled, and the contemplation which is there in a state like this rests within because it is confident of possession. And, in proportion as the confidence is clearer, the contemplation is quieter, in that it unifies more, and what knows, in so far as it knows—we must be serious now—comes into unity with what is known. For if they are two, the knower will be one thing and the known another, so that there is a sort of juxtaposition, and contemplation has not yet made this pair akin to each other, as when rational principles present in the soul do nothing.²⁹

The lack of a proper ontological content at the level of nature can now rather easily be explained by considering that from the point of view of substance there is only one soul. If nature had its own forms, in every respect it would constitute a fourth hypostatical level. In the same way, the soul only has one activity from the point of view of essence: its turning towards νοῦς, and being filled with the still essential contents of the primary λόγοι. Clearly, at this level there is an increment of multiplicity with respect to Νοῦς (the soul is one-and-many); such an increment, however, must be situated not in the field of substance, nor in that of internal activity, but in the field of external activities. A first separation is that between the connective activity and the productive, but the dispersal of the psychic powers does not end here: a careful reading of III.8 [30] 2.30–34 suggests that in the natural realm the previously united productive and configurative faculties part.³⁰

This forming principle, then, which operates in the visible shape, is the last, and is dead and no longer able to make another, but that which has life is the brother of that which makes the shape, and has the same power, and makes in that which comes into being.

²⁹ Plotinus is referring here to the individual, but his simile is just intended to clarify the behaviour of nature. See also III.8 [30] 4.31–39: ‘Men too, when their power of contemplation weakens, make action a shadow of contemplation and reasoning. Because contemplation is not enough for them, since their souls are weak and they are not able to grasp the vision sufficiently, and therefore are not filled with it, but still long to see it, they are carried into action, so as to see what they cannot see with their intellect. When they make something, then, it is because they want to see their object themselves and also because they want others to be aware of it and contemplate it, when their project is realised in practice as well as possible’.

³⁰ Fattal (1998) 49 mentions this separation between the two psychic potencies. At any rate, scholars have not paid due attention to the anomaly of this separation with respect to the higher levels and its consequences in terms of the perfection of the outcome.

Another Plotinian claim appears to be connected with the lack of substantial content and the dispersal of different activities: (e1) nature, and, along with it—as I will soon come to discuss—fate, are incapable not only of reconnecting lower beings with the higher, but also of endowing lower beings with an internal and, so to speak, horizontal coordination. In IV.4 [28] 39.5–11, Plotinus points out that:

What comes to be in the All, then, does not come to be according to seminal formative principles (οὐ κατὰ σπερματικούς) but according to formative principles, which include powers which are prior to the principles in the seeds (κατὰ λόγους περιληπτικούς καὶ τῶν προτέρων ἢ κατὰ τοὺς τῶν σπερμάτων λόγους); for in the seminal principles there is nothing of what happens outside the sphere of the seminal principles themselves, or of the contributions which come from matter to the whole, or of the interactions on each other of the things which have come to be. But the rational formative principle of the All is more like the formative thought which establishes the order and law of a state, which knows already what citizens are going to do and why they are going to do it, and legislates with regard to all this...

While nature is in charge of generating individual living beings, for their parts (λόγοι) are just parts and not also wholes, it is possible to infer from the above passage that the primordial λόγοι, which contain not only themselves but also the series of antecedents and derivatives that extend to the cosmos, are in charge of coordinating both the cosmos as a whole and the relationship among its beings.³¹

Another consequence of the diffusion of the soul at this level is the possibility of distinguishing nature from fate, as well as—more generally and from the point of view of each single living being—internal from external causality. It is only possible to speak of fate proper at the level of nature, but this simultaneous appearance of nature and fate does not have the same meaning for Plotinus as it has for Proclus: for according to the latter philosopher the two notions ultimately coincide. Plotinus' claim that at the level of nature the parts are just parts—and not also

³¹ Here we must again presuppose the special whole-parts dialectic, by means of which it becomes clear how a man's soul can bring about all other animals. See also VI.7 [38] 7.8–17: 'what is there to prevent the power of the soul of the all from drawing a preliminary outline, since it is the universal forming principle, even before the soul-powers come from it, and this preliminary outline being like illuminations running on before into matter, and the soul which carries out the work following traces of this kind and making by articulating the traces part by part, and each individual soul becoming this to which it came by figuring itself, as the dancer does to the dramatic part given him?'

wholes that include other parts—entails that the λόγοι σπερματικοί are restricted in their range. For Plotinus, the two potencies, nature and fate, do not coincide; rather, they border on each other and compete for the realization of particular effects. Fate appears to be the name given to those ‘other causes’ or ‘external causes’ in conflict with the internal λόγος according to which a horse was born a horse and the man was born a man. A few passages from the *Enneads* contribute to illustrate the pluralism (and competition) of causes:

And, further, the influences which come from the stars combine into one, and each thing that comes into being takes something from the mixture, so that what already is, acquires a certain quality. The star-influences do not make the horse; they give something to the horse. Horse comes from horse and man from man: the sun cooperates in their making; but man comes from the formative principle of man. The outside influence sometimes harms or helps. A man is like his father, but often he turns out better, sometimes worse. But the outside influence does not force anything out of its fundamental nature... (II.3 [52] 12.1–9).³²

The primordial λόγοι, settled in the universal soul (*i.e.* at the level of providence) represent the starting point. I have already pointed out that these λόγοι pre-contain all causal factors that contribute to the realization of each product and, more generally, each event. At this level it is impossible to distinguish between the inside and the outside; such a distinction emerges only in the physical universe:

The soul, surely, is another principle which we must bring into reality—not only the soul of the All but also the individual soul along with it as a principle of no small importance; with this we must weave all things together, which does not itself come, like other things, from seeds, but is a cause which initiates activity. Now, when the soul is without body it is in absolute control of itself and free, and outside the causation of the physical universe; but when it is brought into the body it is no longer in all ways in control, as it forms part of an order with other things. Chances direct, for the most part, all the things round it, among which it has fallen when it comes to this middle point, so that it does some things because of these, but sometimes it masters them itself and leads them where it wishes (III.1 [3] 8.4–14).

Some chapters later Plotinus concludes that:

³² Also consider III.1 [3] 6.1 ff.: ‘But in fact all individual things come into being according to their own natures, a horse because it comes from a horse, and a man from a man’. More generally on environmental influences see IV.4 [28] 31 ff.; III.1 [3] 5–6; II.3, *passim*; Dilllon (1999); Spinelli (2002).

all things are indicated [by the stars] and all things happen according to causes, but there are two kinds of these; and some happenings are brought about by the soul, others by other causes, those around it... Other things, then, [not the soul] are responsible for not thinking; and it is perhaps correct to say that the soul acts unthinkingly according to destiny, at least for people who think that destiny is an external cause (III.1 [3] 10.2–10).

Within our cosmos, the soul, which was before ‘all things’, is in fact immersed in a plurality of causes. The reason for this is that at the conception of the living being a particular activity irradiates from the soul, namely the λόγος σπερματικός of a certain species. This λόγος is no longer a whole at this stage, but simply a part, to which other causal factors have been added (for instance, the contribution of matter and the influence from the environment), which are sometimes opposed to it. Although they too were originally pre-contained, as λόγοι σπερματικοί, in the primary λόγοι of soul, now, in their interaction with the λόγοι σπερματικοί such factors take the name of ‘external causes’. The passages quoted from II.3 [52] and III.1 [3] further support the conclusion that nature and fate are two different partial causes, which restrict each other’s range: each of these two causes is completely unable, in itself, to coordinate all of the effects, and less still to reconnect them with their intelligible and universal causes.

In the light of the conclusions reached in the previous section, the above examination of nature and fate allows a more detailed understanding of the specific ‘dualism’ that lies behind Plotinus’ basic monism. Whereas Proclus’ residual dualism has been shown to consist of the hylomorphic interaction between limited and unlimited, Plotinus’ dualism finds its roots in the theory of double activity or, more precisely, in the particular development this theory undergoes at the level of the soul.³³ While at this level there is only one internal activity or activity *of* the essence (the contemplation of the intelligible, which completes the internal dynamic structure of the soul hypostasis according to its peculiar contents, namely the psychic primary λόγοι), there are two external activities or activities deriving *from* the essence. Both of these activities are directed towards sensible objects, although the first external activity unfolds in such a way as to reconnect sensible objects with their intelligible causes, whereas the second organizes the bodily and

³³ On Plotinus’ theory of double activity see the most recent and in-depth discussion in Emilsson (2007) 22–68. Unfortunately, Emilsson’s book was published when this paper had already been submitted for publication.

vegetative substrate of sensible things. Furthermore, at this last level, productive power itself is to be distinguished from configurative power. Given, therefore, that the generation of beings is due to the joined effectiveness of two different aspects of the external activity flowing from a single principle (namely the soul), we must conclude that the kind of dualism underlying Plotinus' generation is not a dualism of principles, but a dualism of functions.

This increase in multiplicity within the soul implies that causes no longer act according to the so-called 'law of the productivity of the perfect'.³⁴ The criteria for the perfection of a cause are: (i) ontological autonomy (the cause is in possession of essential contents that constitute an ontological level in themselves); (ii) internal unity (each of the various parts of the cause represents a whole); and (iii) freedom (something quite distinct from both the power of choosing between two possibilities and mere spontaneity).³⁵ As a further condition for the perfection of a cause, one must add its capacity of functioning as a model in the establishment of a new reality. This new reality should itself be as perfect as possible, which is to say: autonomous, unified and free.³⁶ We have seen that nature on many counts does not comply with these criteria. Firstly, nature does not constitute an ontological level provided with specific contents; secondly, its *λόγοι* are only part of a whole; and thirdly, it produces spontaneously, but not freely. Finally, it is not thanks to nature, but thanks to the universal soul that our cosmos is as perfected and unified as possible. Ultimately, nature's activity is completely subordinate to the connective activity of the universal soul, which, by contrast, operates in accordance with the full autonomy, unity and freedom that characterizes what is perfect. As a perfect principle, the universal soul is also a perfecting and connecting principle. Therefore, by means of

³⁴ On this Plotinian doctrine see, for instance, V.1 [10] 6.38 ff. ('and all things, when they come to perfection produce') and Igal (1982) 29–30.

³⁵ In the case of all hypostasis, real freedom consists in the capability of acting willingly in perfect accordance with the necessity of the Good (the One and the *Noûs* are free in themselves). At the level of soul, it is possible to speak of a perfect accordance with providence (the soul is free when, through the *Noûs*, it tends towards the Good: cf. VI.8 [39] 7.1–4). This accordance represents neither a choice between two different options nor a natural instinct (see IV.3 [27] 13). On freedom, freewill and spontaneity in Plotinus, see O'Brien (1977); Rist (1975); Phillips (1995); Leroux (1990) and (1996).

³⁶ See V.1 [10] 6.40 ff.: 'the One is always perfect and therefore produces everlastingly; and its product is less than itself ... Nothing can come from it except that which is next greater after it. Intellect is next to it in greatness and second to it'. Igal (1982) 31, includes this further tenet among the 'principios de la procesión'.

one of its derived and partial activities (*i.e.* nature), the universal soul operates in such a way as to engender something else which it can then order and turn towards the good. This is why, in its operating, a perfect principle is faced with an already existing substrate.

In view of the fact that Plotinus holds the production of the sensible objects in low regard, as can be concluded from the above discussion, it is worth examining the status of that which has been produced by means of such a process, *i.e.* bodies.

IV. *Space and the status of sensible objects*

Let us start from an issue that is closely associated with that of bodies, namely three-dimensional space as the location of sensible bodies. According to Proclus, (f) space (also called 'light') is in itself immovable, indivisible, immaterial and intermediate between the ordering soul and the inert body of the cosmos. As formal and active potency, which endows bodies with motion and distributes them to their own respective places, space is a necessary condition for the last developments of procession.³⁷ Far from being the substrate of particular bodies, space appears prior to bodies in the causal hierarchy. As Simplicius attests, Proclus suggested that 'within this [*i.e.* space], formless things (ἀτύπωτα) are given their form, according to the oracle. Perhaps Proclus would say that it is called place (τόπος) on account of being, as it were, a mould (τύπος) of the whole body of the universe and of making the inseparable separate'.³⁸ The notion of space as potency, which seems to have Aristotelian roots,³⁹ is adopted, not without some enrichments and developments, by most Neoplatonists.⁴⁰ As I will come to discuss

³⁷ See Simp., *In Phys.* 612.16–35. More in general, concerning these features of Proclus' space, see the careful account in Siorvanes (1996) 247–256.

³⁸ See Simp., *In Phys.* 613.7–13.

³⁹ I refer to Aristotle's natural places as powers, since they account for the natural fall of rocks toward a lower place and for the rising of flames to an upper one (Arist., *Phys.* IV.1 208 b 11; see also Sorabji (1992) 3–4). For more extensive treatments of Aristotle's complex views on space, see Sorabji (1988) chap. 11, and (2004); Morison (2002).

⁴⁰ As Sorabji (1992) 3 points out, not only Proclus, but also Syrianus, Damascius and Simplicius endow place with the power to assign the four elements to their proper regions. According to Iamblichus, the place of a thing is something 'which embraces it in such a way as to prevent it from dissipating and falling further away from unity' (see Simp., *In Cat.* 631 ff.; *In Phys.* 639.23–32). Similarly, Damascius and Simplicius stress the power of space to draw bodies together (see *In Phys.* 625.28; 631.38; 636.8–13; 638.2).

shortly, Plotinus is the only exception to this specific attempt to reconcile Aristotelian theory and Neoplatonist doctrine.⁴¹ With regard to Proclus, it is worth stressing that the philosopher adds a further feature to his characterization of space: as Simplicius attests, space, for Proclus, is the ‘first body’.⁴² Schrenk speculates on the possible reasons for this anomalous theory, and suggests that since Proclus has assumed Iamblichus’ theory of intermediates as the basis for his own system of triads, he needs a mean term between two levels of reality that would otherwise be foreign to each other. It will not be superfluous to emphasize that this is where the need for a mean makes itself felt more than ever: the continuity of being needs to be warranted particularly where the two κόσμοι, the visible and the invisible, are welded together.⁴³ If space is to act as the mean term between the intelligible and the sensible, in some way it must be a body, albeit neither a material body nor one that is, in itself, perceptible by the senses.⁴⁴ If this were not so, given the causal system that features the receptive δύναμις as an antagonist factor, the two κόσμοι could never be joined together. In his definition of space as the first body, Proclus ultimately appears to be guided not so much by the necessity of finding a principle (to introduce the sensible as a new ontological level), but by a desire to define an intermediate power that might secure the continuity of being. In order to endow bodies with the capacity of being perceived and of possessing denseness and extension, there is no need to invoke the intervention of place. Such characteristics have already been conferred to bodies by a higher and more universal cause. I now wish to consider at what level and in what way this was conceptualized by addressing the issue of the status of bodies.

The fact that the cosmos is a ὁρατόν, *i.e.* a visible being and, more generally, a perceptible one, is due not to space as its proximate ordering cause, but to traces of the forms, which are present in the substrate of the world and constitute so-called ‘matter in disorder’. This ‘matter’ has

⁴¹ Starting from Iamblichus, Neoplatonists engage in applying Aristotle’s categories to the intellectual world of the Platonic Forms. These philosophers derive the idea of the world as an organism from Theophrastus, but ultimately assign the power to arrange its members not to the world itself but to place (see Sorabji [1992] 3).

⁴² See Simp., *In Cat.* 611.10–614.7.

⁴³ See Schrenk (1989) 90–91. As Schrenk points out, nature and soul are not sufficient as middle terms: a true mean term in this case must fulfil the role of a vehicle, and only space meets this requirement, being the vehicle of the cosmos.

⁴⁴ Space is only perceptible through the light-vehicle of the rational soul.

already received these elementary characteristics from higher principles, more precisely from the intelligible Forms that were able to extend their own causal efficaciousness down to the second last degree of reality.⁴⁵

The substrate 'in disorder' on which space (namely, the first body) acts, possesses traces of higher Forms; as a result, it is permeated by some earthly stuff, *i.e.* a kind of prefiguration of earth that endows it with tangibility, the primary characteristic of earth.⁴⁶ The substrate, therefore, can already be regarded as bulky matter or mass prior to its being acted upon by space. Hence, (g) when the substrate is about to undergo the formative influence of space, the 'matter' of the cosmos already possesses the essential characteristics of the sensible (*viz.* visibility, mutability and denseness) and benefits from some ontological specificity. This specificity is opposed to that of the intelligible, and ready to be investigated in its own physical pattern: the only thing the substrate still needs to receive from outside is its connection to the intelligible world by means of a middle term.

Whereas Proclus accepts the notion of space as active δύνάμις—a conception stemming from the Neoplatonic development of an Aristotelian idea—Plotinus does not: for Plotinus, no active principle is the cause of spatial extension. Nor does Plotinus accept the thesis of space as the first body. Such philosophical choices appear to agree with Plotinus' view of the ontological hierarchy and with his complex theory of psychic causation. First of all, since, according to Plotinus, nature is the last effective principle, no other active potency can exist below nature. It is not surprising, therefore, that Plotinus makes no use of mean terms in order to connect the sensible to the intelligible world: for such a function is already eternally realized by a cause higher than nature (*i.e.* the universal soul). A further reason consists in the fact that the lower term, which derives not from a more perfect and universal cause but from the dispersal and exhaustion of the soul itself, is not an entity truly antithetical to the intelligible. For Plotinus, in conclusion, (f1) space is neither an active power nor a mean term between two realities proper; rather, it is a mere consequence of the 'existence' ('appearance' would be more exact) of bodies, as II.4 [12] 12.11–12 points out:

⁴⁵ See, for instance, Proclus, *Theol. Plat.* V.17 63.5–7. Regarding this feature in the context of the many substrates on which demiurgic powers are operating see Van Riel's contribution to the present volume.

⁴⁶ For the most fundamental properties of the elements see *In Tim.* III 2.7.33; III 2.29.33; III 2.44.15–24.

But place is posterior (ὕστερος) to matter and bodies, so that bodies need matter before they need place.⁴⁷

In order further to examine why Plotinus, unlike Proclus, has no need to posit a mean term between psychical realities and their substrate, it is worth considering what characterizes the latter. In other words, I now wish to consider that matter which assumes the appearance of a defined mass by establishing a contact with the incorporeal λόγος of size. An important claim made by Plotinus is that ‘matter makes the greatest contribution to the formation of bodies’. According to Plotinus, if the corporeal forms came into being in size, ‘they would not come into being in matter and would be the same as before, without size and without underlying material substantiality’ (perceptible size and substantiality—extension and denseness—are to be understood here), ‘or they would be only rational principles—but these are in soul and would not be bodies. So, here in the material world, the many forms must be in something which is one; and this is what has been given size; but this is different from size.’⁴⁸

Matter has no other option but to coexist with size. Yet matter is incapable of receiving size and, consequently, of becoming big or small: matter always remains undetermined and this is the sense of its definition as ‘big-and-small’. No doubt, according to Plotinus the role matter plays in the generation of the world and its parts consist not in holding, but in pushing back the forms from itself (starting with the form ‘size’). It is in this sense that, in III.6 [26] 14.6–36, Plotinus replaces the example of the mirror (a rather popular example in the *Enneads*) with that of the echo caused by smooth surfaces that do not absorb sound, but send it back to a third point, where it will be perceived. Another example Plotinus uses is that of reflecting vessels filled with water, which are set against the sun to produce fire: the rays, prevented from being absorbed by their opposite, are flung out as one mass.

⁴⁷ I think that the inconsistency between these two sentences is only apparent: the fact that the body needs place after it needs matter does not imply that it needs place in order to ‘exist’ (the validity of the first sentence excludes any such interpretation); rather, what this means is simply that the body needs matter in order to ‘exist’ as a body, and that it needs place in order to ‘exist’ somewhere. Bodies that need a container of some sort are already bodies: τόπος is something which, both logically and ontologically, comes after. For a detailed (if slightly different) commentary on these lines, see Narbonne (1993).

⁴⁸ See II.4 [12] 12.1–7.

When matter is associated with size—a process which does not imply any delimitation—the notion of mass (ὄγκος) emerges: ‘so then, that which is going to receive the form must not be a mass, but it must receive the rest of its qualities as well, at the same time as it becomes a mass’ (II.4 [12] 11.26–27). Because it is the receptacle of size in matter, mass is what allows matter to remain completely excluded from any contact with form. Nevertheless, as I have previously emphasized, mass is a φάντασμα, *i.e.* a deceitful aspect of matter itself:

I say an imaginary appearance of mass, because the soul, too, when it is keeping company with matter, having nothing to delimit, spills itself into indefiniteness, neither drawing a line round it nor able to arrive at a point: for if it did it would already be delimiting it. For this reason matter should not be called great separately or again small separately, but ‘great-and-small’. It is ‘mass’ in this sense, that it is the matter of mass (II.4 [12] 11.29–35).

From here comes the distinction between the two ways of understanding mass. According to the correct way, mass is actually the ‘matter of mass’, which changes from big to small and vice versa, while remaining absolutely undetermined (mass, therefore, is just the φάντασμα of a determined mass). By contrast, according to the incorrect way, ‘in imaginary representation it is mass in the sense we have described’ (II.4 [12] 11.39), which is to say (from what can be inferred): bulky matter. To conclude, it is thanks to the φάντασμα of mass that matter, which ‘has nothing by means of which it can appear since it is destitution of everything... becomes the cause for other things of their appearing (αἴτια ἄλλοις τοῦ φαίνεσθαι)’ (III.6 [26] 15.23–27). In this passage, Plotinus is alluding to the several forms, both intelligible and psychic, which are subject to sense perception and appear visible only in their ‘contact’ with a matter feigning mass.

As Narbonne points out, for Plotinus only λόγος and matter exist (representing active potency and absolute impotence respectively). When λόγος approaches matter, the latter gives the former back to perception no longer according to the coordinates of the intelligible (in the case in point, as size-form), but according to those of the sensible (in the case in point, as pseudo-size, *i.e.* as determined bulky matter): it is exactly at this point that the perceptible body originates. This analysis elucidates and corroborates the view, already upheld by Wagner, that (g) Plotinus’ real interest lies in the body not as a physical but as a phenomenal entity.

V. *Conclusion*

This paper has examined a number of significant differences between Plotinus and Proclus with respect to the theory of causality. As regards Proclus, given the fact that his philosophy at all levels contemplates an interaction between the informing principle (the limit, acting as proximate cause) and the potential substrate (the unlimited, proceeding from the higher causes), it is possible to conclude that behind Proclus' monism lurks a dualism of antagonist *δυνάμεις*: in other words, a dualism of principles.

This general causal framework requires the interposition of mean terms at all levels of reality and in particular at the junction between the intelligible world and the sensible: the active potencies of nature and space fulfill just this role. As the highest principles extend their causal efficacy to the lowest levels (Proclean law), so the generation of matter and of the elements—not unlike the generation of Being and *νοῦς*—can be seen as a sign of the perfection of a cause. Having adopted this scheme for the coming into being of sensible realities, Proclus can maintain an authentic interest in their status as physical entities.

By contrast, according to Plotinus, the pluralism operating in the generation of lower realities is due to the progressive separation of the external activities of a single psychic principle. Three external activities correspond to the one activity *of* essence: the connecting, producing and configuring activity. Moreover, as the connective activity is the first in order of perfection and operates eternally from above in its realization of the continuity between the *κόσμοι*, a further intervention of mean terms would be completely superfluous. The production of sensible objects is an activity that is already particularized and weakened to such an extent that it is not subject to the law of 'productivity of the perfect'; in fact, it is not a consequence of the perfection of the cause⁴⁹ but, rather, simply the necessary condition for the perfect cause to express itself according to its own true nature. This perfect cause, namely providence, expresses itself in the distribution of *τὸ εἶναι*, and never *τὸ εἶναι*, to the products of nature.⁵⁰

⁴⁹ If anything, it is a consequence of the soul's weakening, which, in turn, is due to the loss of unity.

⁵⁰ I am very grateful to Jan Opsomer for reading a first draft of this paper.

PHYSIS AS HEIMARMENE:
ON SOME FUNDAMENTAL PRINCIPLES OF THE
NEOPLATONIC PHILOSOPHY OF NATURE

Alessandro Linguìti

I. *Nature as a Neoplatonic cause*

In the paper he has contributed to the present volume, Robbert van den Berg rightly remarks: ‘Neoplatonists hold that the study of nature is primarily a study of the metaphysical causes of the phenomena’. We may conceive of ‘metaphysical causes’ as causes—or principles—that differ in essence from physical bodies. These causes or principles are incorporeal, immaterial and ‘spiritual’; even more importantly perhaps, they correspond to an order of reality which differs from that of bodies: what may be described, by employing the Neoplatonist notion of ‘verticality’, as a superior or more elevated order. On this account, the physical world, *i.e.* the world of the physical bodies, appears as both the outcome of incorporeal forces that transcend it, and the domain of their operations. Hence, the widespread use of the formula ‘vertical causation’—in vogue since the publication of the seminal papers by M. F. Wagner and J. Barnes—to describe the metaphysical character of causes acting ‘from above’ upon the physical world.¹ In general, Neoplatonists assumed the existence of an essential gap between cause and effect, a gap responsible for the asymmetrical relation between the two: the superior (*i.e.* the cause) can subsist and be thought of without the inferior (*i.e.* the effect), but the reverse does not hold.² This axiom, however, does not change the fact that the effect *necessarily* follows its cause.

The above points clearly mark the distance between Neoplatonist philosophers and Aristotelians. According to the Aristotelians, the principle, or ‘nature’, that rules the bodies is totally internal to the bodies themselves: ‘una sorta di forza che si trova all’interno della cosa, e della

¹ See Wagner (1982), Barnes (1983).

² This is the typical relation existing between the different levels of reality (as stated by the formula *συναναίρειν καὶ μὴ συναναίρεῖσθαι*), according to what are generally regarded as the Platonic and Academic ontologies.

quale la cosa è totalmente fonte e proprietaria. Tale forza né proviene dall'esterno, né passa all'interno; essa esiste con la cosa, come proprietà della cosa, e cessa di esistere con il perire della cosa in cui si trova'.³ In this case, the process of causation can adequately be defined as 'horizontal', on the ground that what causes alterations in the bodies is internal to the bodies themselves, and homogeneous with them. It is true that the Aristotelian form (*eidos*), which is ultimately responsible for formal, efficient and final causation, is also incorporeal (see Arist., *Phys.* II.7). However, from the point of view of physics, form should not be taken in isolation from the bodily compound it constitutes together with the material cause (which is also 'nature', albeit to a lesser degree than form: see *Phys.* II.1). Besides, the formula 'horizontal causation' would suit the physical explanations provided by atomist philosophers even better, as atomists exclude any presence of effective incorporeal causes in the world and consequently interpret phenomena merely in terms of the mechanical interactions of bodies.⁴

It is worth noting that the thinkers belonging to the 'dogmatic' stream of Platonism conceived of Nature (or of Soul, the essential core of Nature) mainly as a universal principle: a principle, that is to say, presiding not only over individual entities, but also over the physical world as a whole, thus securing the stability of the All by connecting its various parts. This position is certainly remote from the Aristotelian way of thinking, according to which 'nature' has mostly a distributive meaning, as the individual nature of each single entity. As is well known, even when Aristotle employs 'nature' in its general sense, prevalently uses the term to describe a collection rather than a system.⁵

³ Franco Repellini (1996) 140.

⁴ If one were to apply these categories to the *Timaeus*, it would be possible to assign 'vertical causation' to the proper causes, 'horizontal causation' to the auxiliary; see especially 46 de: 'and the lover of thought and knowledge must pursue first the causes which belong to the Intelligent Nature, and put second all such as are of the class of things which are moved by others, and themselves, in turn, move others because they cannot help it.' (trans. Bury) More in general, Broadie (forthc.) appropriately stresses the fact that nature, as it is presented by Plato, both depends on a divine maker and constitutes an autonomous order. According to Broadie, bodies and all the natural systems are actually 'effects of divine and world-transcending Reason, but also genuinely *natural* entities or systems with their own natural modes of working. Thus the gods fashioned the complex respiratory and metabolic systems in mortal animals, but it is clearly the mortal animals *themselves* that will be breathing in and out, or undergoing the stages of the metabolic cycle. There is no divine agent doing the animals' breathing or digesting or growing for them'; to conclude: 'the cosmic system and the physical systems within it are *both* natural in their working *and* divinely caused.' (Broadie [forthc.])

⁵ See, among others, Siorvanes (1996) 145: 'Aristotle rejected both the notion of a

II. *Nature and Fate in Proclus' De Providentia*

In order to gain a better understanding of the Neoplatonic conception of the physical world, it is worth examining the intimate connection between Nature and Fate in Proclus and other Platonic philosophers. Nature-Fate ultimately emerges here as a universal principle ruling the whole of the sensible world, as well as the single events within it. In this respect, Nature-Fate is also the cause of the regularity of physical phenomena. This definition of Fate as Nature may be opposed to the ordinary one, according to which Fate is the source of 'exceptional' events; however, it is totally in line with the relevant Stoic view, albeit on the basis of different ontological assumptions.⁶ In what follows, I hope to draw light on some of the existing relations between Fate and Nature on the one hand, and Necessity or Providence on the other. I also seek to examine the creative way in which Proclus remolds not only Platonic stances but also Aristotelian ones. In fact, the identification of Fate with Nature also occurs in the Peripatos, as appears especially from Alexander of Aphrodisias' *De Fato* (see section III below). Although almost totally Aristotelian in content, Alexander's doctrine was probably developed, by himself or other Peripatetic philosophers, in competition with the Stoics;⁷ traces of this and similar debates are not uncommon in Middle- and Neoplatonic writings on Fate. To return to Proclus, extensive treatment of the link between Fate and Nature is to be found in his treatise *On Providence*, in his *Commentary on the Timaeus* and in his *Platonic Theology*.⁸ The main Platonic starting-point for the discussion is clearly *Timaeus* 41 d 4 ff., where the Demiurge shows the individual souls, newly born, 'the nature of the universe' (ἡ τοῦ παντός φύσις) and reveals 'the laws of Fate' (οἱ νόμοι εἰμαρμένοι: 41 e 2–3).

soul for the cosmos and the need for a single principle for the world as a whole'. A somewhat different approach characterizes the essays recently devoted by D. N. Sedley and others to the 'cosmic' or 'global teleology' in Aristotle; on this, see Falcon (2005), esp. 13 and n. 31.

⁶ For Nature as Fate, see esp. *SVF* I.176; II.913, 937 [1], 945 [1], 1002. The main difference between the two schools lies in the way in which the cause is envisaged: as corporeal and immanent according to the Stoics, incorporeal and transcendent according to the Platonists.

⁷ See especially Sharples (1987) 1216–1220, and Donini (1987) 1244–1259. Valuable suggestions also in Natali (1996).

⁸ I focus mainly on *Prov.* 7–14: *Theol. Plat.* V.18, V.31–32 and VI.23; in *Tim.* I 1.10.5 ff.; I 1.201.16 ff.; V 3.266.14 ff.; V 3.271.16 ff.; V 3.272.24 ff. The secondary literature on the subject is scanty; I have especially taken account of Romano (1991) and Dragona-Monachou (1994); others works that I found useful will be quoted in the footnotes below.

Let us start from the short treatise *De Providentia Et Fato Et Eo Quod In Nobis*, which offers a simpler overview of the subject.⁹ Chapters 7–8 provide some definitions of Fate: ‘*fatum...causam quidem esse...connexionis cuiusdam et consequentie hiis que generantur*’ (7 3–5); ‘*fatum causam connexionis*’ (8 20–21); ‘*connexorum est causa*’ (8 27). The definition of Fate as ‘cause of the connection of events’, clearly Stoic in origin,¹⁰ is here enriched by some peculiar specifications: Fate is properly the principle of connection; it is neither what is connected nor the connection of connected things: ‘*neque id quod connectitur fatum neque que in hoc procedens connexio, sed connectens*’ (8 3–5). Moreover, a distinction should be made not only between the principle of connection and the connected things, but also between the principle of connection and its own activity of connecting: ‘*connectens, quod connectitur, ea que a connectente in connexum factio*’ (8 12–13).¹¹ Such remarks should be read, at least partially, as a reaction against Stoicism, insofar as they stress the separate, transcendent character of Fate: ‘*fatum...unam causam exaltatam*’ (7 23–25).¹² By contrast, these remarks are perfectly in line with the Neoplatonic viewpoint recalled from the outset, inasmuch as they confirm the difference that exists

⁹ I warmly thank Carlos Steel for having provided me with his annotated translation of *De Providentia* before it was published (Steel 2007b).

¹⁰ As Steel (2007b) 74 n. 34 explains, Proclus here follows the Stoics: ‘Proclus’ explanation of the “common notion” of fate, as is manifested in the term we use for it (εἰμαρμένη), depends in fact on a wrong etymology. Following the Stoics, it was common to understand the term εἰμαρμένη (which means originally ‘what is allotted’; εἴμαρτο is the pluperfect of μέιρομαι) as the ‘connected chain’ (εἰρόμενον deriving from εἶρω) of events. Cf. *SVF* II.915 (εἰμαρμένη αἰτία τῶν ὄντων εἰρομένη). Thus, Procl., *In Tim.* V 3.272.24 ff.’

¹¹ The distinction between the principle and its activity here probably refers to the distinction, which was frequently posited by previous philosophers, between the essence (or substance) and the activity of Fate. In the pseudo-Plutarchean *De Fato*, Fate according to its substance corresponds to the World-Soul, whose sphere of action is divided into three regions: one immobile (i.e. the fixed stars), one errant (i.e. the planets), one sub-celestial (i.e. the earthly world); each region is presided over by one of the Moirai (respectively Clotho, Atropos and Lachesis). Fate according to its activity corresponds instead to the divine law, as announced in the *Phaedo* by Adrasteia, in the *Timaeus* by the Demiurge, in the *Republic* by Lachesis, daughter of Ananke. Cf. Calcid., *In Tim.* 143–144 (with a different sequence of the Moirai).

¹² Steel, correctly in my view, sees the two adjectives as referring to the Fate. He translates: ‘the Moirai, by which—in my opinion—they also mean the sequence (εἰρμός) of all concatenated events, which fate imposes upon them as the one transcendent cause of the connected things’. Alternatively, the ‘one and transcendent cause’ might be the Necessity superior to Fate: see the translation and the notes *ad loc.* by Isaac (1979) 32 and 87; and, below, my comments to *In Tim.* V 3.274.

between causes and effects: 'Ubique autem factive cause ab effectibus distincte sunt' (8 7–8).¹³ A further consequence of this radical otherness is the fact that the properties of the cause are different from the properties of the effect: 'Et palam quod secundum utramque trinitatum faciens non est tale, quale factum' (8 13–15). But more on this later.

As Proclus emphasizes in chapter 10 of his treatise, the things connected by Fate are exclusively bodies. Being passive in essence, *i.e.* incapable of autonomous movement, and separated in space and time, all bodies owe their unitary and harmonious connection to Fate: 'que autem connectuntur et partibilia sunt, aut locis aut temporibus distantia, et ab alio nata sunt connecti' (10 15–17); 'palam utique quod que a fato reguntur et connectuntur ab altero mobilia sunt et corporalia omnino' (10 22–23). The reference here is presumably to book X of the *Laws*, where a major distinction is made between self-moving incorporeal entities and bodies moved by something else.¹⁴ If, then, Fate presides over bodies (see also the conclusion of chapter 10 24–27: 'Si autem hoc demonstratum est, manifestum quod causam connexionis fatum ponentes ipsum presidem ab altero mobiliū et corporalium esse ponemus'), it is tempting to equate it with Nature, understood as the incorporeal principle that rules bodies, taken by themselves and in their mutual relation. Two passages, respectively from chapter 11 and chapter 12, suggest a full identity between Nature and Fate:

If then, not only in us and in the other animals and plants, but also in this whole world there exists, prior to bodies, the single nature of the world, which maintains the constitution of the bodies and moves them, as is also the case in human beings..., this nature must be the cause of connected things and in this we must search for what we call fate.¹⁵ (Trans. Steel)

¹³ See Siorvanes (1996) 92–98; and, for example, Procl., *Elem. Theol.* 7, with *ad loc.* comments by Dodds (1963) 193.

¹⁴ See Plato, *Leg.* X 896 a ff. For the passive character of bodies, which are moved by incorporeal forces transcending them, see esp. Procl. *Elem. Theol.* 80 and the commentary *ad loc.* by Dodds (1963) 242–244; *In Parm.* III 786.3–4; *Theol. Plat.* I.14 61.23–62.1; III.6; Barnes (1983); Steel (2002) 81–84; Siorvanes (1996) 123–125, 130.

¹⁵ *Prov.* 11 15–22: 'Si igitur non solum in nobis et aliis animalibus et plantis, sed et in hoc omni mundo ante corpora est una mundi natura, contentiva ens corporum consistentie et motiva..., necesse utique naturam causam esse connexorum et in hac querere vocatum fatum.' In addition to this, the close relationship between Nature and Fate is granted by the authorities of Aristotle, Plato and the *Chaldean Oracles* (11 22–31).

Particularly important for the purposes of the present enquiry is Chapter 12. This begins with a joint definition of Nature and Fate as the incorporeal principle that moves and coordinates bodies separated in time and space, thus establishing a cosmic ‘sympathy’:

Thus we have discovered the meaning of fate and how it is the nature of this world, an incorporeal substance, as the patron of bodies, and life as well as substance, since it moves bodies from the inside and not from the outside, moving everything according to time and connecting the movements of all things that are dissociated in time and place. According to fate mortal beings are also connected with eternal beings and are set in rotation together with them and all are in mutual sympathy.¹⁶ (Trans. Steel)

Proclus next (12 12–18) points to the existing parallels between the macrocosm of the entire universe and the microcosm of the human being. In both cases, Nature binds the parts of the whole together. Given that in both the cosmic body and in individual bodies there are important and less important parts, the task of (the two) Nature(s) will in each case be to attune the movements of the inferior parts to the movements of the superior ones. Universal Nature, which effects the generation of the sublunary bodies according to the revolutions of the celestial bodies, is the same as Fate; consequently, that nature in us which connects and harmonizes our various parts, *i.e.* the soul, may also be termed ‘Fate’.

III. *Aristotelian influences*

De Providentia 11–12 reveals substantial influences from Peripatetic doctrines. In what follows, I wish to evaluate the impact of these doctrines on Proclus’ philosophy.

In 11 22–25 Proclus mentions cases of untimely growth and generation. In Aristotelian terms, these are ‘contrary to fate’: ‘Et propter hoc forte et demonius Aristotiles eas que preter consuetum tempus augmentationes aut generationes “penes fatum” consuevit vocare’. ‘Penes

¹⁶ *Prov.* 12 1–9: ‘Isto igitur inventum est, quid fatum et quomodo huius mundi natura substantia quedam ens incorporea, siquidem corporum preses, et vita cum substantia, siquidem intrinsecus movet corpora, et non de foris, movens omnia secundum tempus et connectens omnium motus et temporibus et locis distantium; secundum quam et mortalia coaptantur eternis et illis concirculantur et hec invicem compatiuntur.’

fatum' is a clumsy translation of *παρ' εἰμαρμένην*, a formula which does not occur in Aristotle as such. However, in *Phys.* V.6 230 a 31–b 1, certain kinds of generation are described as 'violent and not fated' (*βίαιοι καὶ οὐχ εἰμαρμένοι*), and thus contrary to generations according to nature (*αἱ κατὰ φύσιν*). *Παρὰ φύσιν* and *παρ' εἰμαρμένην* should thus be regarded as equivalent expressions; although this equivalence is not literally attested in the extant Aristotelian corpus, both Proclus (cf. *In Tim.* V 3.272.11 ff., and Festugière [1968b] 148 n. 3) and Simplicius (cf. *In Phys.* 911.9–11; likely influenced by Alex. Aphr., *Fat.* 170.7–9 and *Mant.* 186.5–21) assign it to Aristotle.

Phys. V.6 230 a 31–b 1 is probably the source for Alexander's identification of Fate with nature, as discussed in the first part of the *De Fato*, especially in chapter 6 (cf. Sorabji [2004] 127 f.). In this section of the treatise, nature is described in genuine Aristotelian terms as a principle that acts not 'by necessity', but 'either always or for the most part', which is to say: not without exceptions. Alexander's reasoning is baffling for the interpreters, for reasons well explained by Donini (1987) 1244–1245:

In un primo tempo (6 169.18–170.8) l'ambito di ciò che è 'naturale' e pertanto 'fatale' sembra da lui ristretto alla ciclicità delle generazioni, a sua volta collegata al movimento dei cieli e del sole secondo una nota dottrina aristotelica espressa soprattutto in *GC* II.10 336 a 23–337 a 15: sicché sembrano oggi cadute le obiezioni inizialmente mosse a questa argomentazione, già accusata di confusioni con la dottrina stoica; fino a quando limita l'ambito del fato al ciclo della generazione naturale e al livello delle specie Alessandro non dice nulla che sia incompatibile con la filosofia di Aristotele e semplicemente dà il nome, certo non aristotelico, di *εἰμαρμένη* a qualcosa che è effettivamente teorizzato dallo stesso Aristotele. Ma improvvisamente (170.9) la natura che sarebbe da identificarsi con il fato diviene quella individuale, esemplificata con riferimenti alla 'naturale costituzione' sia del corpo (170.14) che dell'anima (170.17): poiché non è in alcun modo spiegato da Alessandro come la naturale costituzione fisica e psichica dell'individuo potrebbe eventualmente essere collegata alla generazione della specie e al movimento dei cieli, il passaggio dall'una all'altra accezione di 'natura' (dal generale all'individuale) appare totalmente ingiustificato e la contraddizione sembra stridente.

Despite its obscurity, Alexander's equation of Fate with nature is crucial for the purposes of our enquiry. *Prov.* 12 explicitly refers to both the preeminence of the astral movements (12 7–9; 12 12–18)¹⁷ and to

¹⁷ As previously noted, that of the regularity of the astral movements, caused by

the denomination of 'Fate' attached to each individual soul (12 9–12). Similarly, in his *Commentary on the Timaeus*, Proclus ascribes the notion of an identity between Fate and μερική φύσις to Alexander, that of an identity between Fate and the order of cosmic revolutions to Aristotle.¹⁸ In this case, however, Proclus emphasises the Platonic perspective, criticizing the Aristotelian: Fate—he argues—can be equated with neither particular natures, which are not eternal and lack real power, nor with the cosmic order, for this order and its (transcendent) cause are patently different.¹⁹

The following two chapters of the *De Providentia* (13–14) deal with the much debated relation between Fate and Providence. While this topic cannot be discussed in any detail here, it is worth recalling the fact that for Proclus both Providence and Fate are immaterial causes, but only the former is linked directly to the Good. This amounts to say that only Providence is responsible for the teleological order of the All, whereas the activity of the Nature-Fate is not goal-oriented per se. Being the 'model' (in the idealistic Platonic sense) of Fate, Providence is superior to it. Moreover, Providence rules everything that is also under the control of Fate (*i.e.* the corporeal realm), while the reverse is not true: incorporeal realities (*i.e.* souls) are out of the reach of Fate, and governed only by Providence. Although such a sharp distinction between Providence and Fate is typical of the Platonic school,²⁰ it can also be found in the Aristotelian tradition (Alexander, like Plotinus, devoted separated treatises to Providence and Fate). Moreover the Stoics also proposed a distinction between Fate and Providence, but apparently did not regard them as two different things: rather, as two different ways of looking at the same thing.²¹ The Stoics, in fact, fused two ontological levels: divine causality and physical (or natural) necessity, which Platonic philosophers carefully sought to distinguish.

the providential action of a divine 'force' or 'necessity', is a doctrine common to Stoic and Aristotelian philosophy. It is also likely to be Platonic in origin: see *Timaeus*, *Laws* (esp. X 896 a–897 c) and *Épinomis* (esp. 982 ac).

¹⁸ See *In Tim.* V 3.272.5–14, with *ad loc.* comments by Festugière (1968b) 148–149.

¹⁹ The divergences between *De Providentia* and *In Timaeum* in the treatment of this topic can be explained from the fact that the two works were addressed to different audiences: to those new to philosophy in the former case, to a more expert audience in the latter.

²⁰ See Dörrie and Baltes (1993) 86–88, 320–327; Dragona-Monachou (1994); Mansfeld (1999).

²¹ See *SVF* II.913; Theiler ([1946] 1966), esp. 64–68 and 73–78; Long (1974) 147–149.

IV. 'Necessity' in Proclus

Before leaving *De Providentia*, let us briefly consider its treatment of 'Necessity', a notion introduced in connection with Providence and Fate in chapter 13 of the treatise. At first, Proclus repeats (13 1–16) that Providence is superior to Fate, inasmuch as it is oriented towards the Good and in charge of both intelligible and sensible realities; he then argues that:

It was in view of this situation, I believe, that Plato too said that 'the constitution of this world is a mixture of intellect and necessity, whereby intellect rules over necessity' [*Tim.* 48 a 1–2]. Plato calls 'necessity' the moving cause of the bodies, which he calls 'fate' in other texts [cf. *Polit.* 272 e 5–6], and he allows bodies that are moved by it to be necessitated by it. And rightly so, for every body is necessitated to do what it does and to undergo what it undergoes, to heat or to be heated, to cool or to be cooled. There is no choice in bodies.²² (Trans. Steel)

Timaeus 48 a 1–2 is often quoted by Proclus (see especially *Theol. Plat.* V.31 113.14–114.4) to stress the contribution of Necessity to the creation and ordering of bodies that is accomplished by the demiurgic Intelligence. The *Statesman* passage, for its part, contains references both to a 'fate' (εἰμαρμένη) and to 'an innate desire' (σύμφυτος ἐπιθυμία) present in the world and capable of effecting an inverted rotation of the world, once the god has retired. According to Proclus, the Necessity involved in the production of the natural world must not be identified with matter, nor with the goddess celebrated in the X book of the *Republic*.²³ This Necessity cannot be matter, as 'some' have maintained,²⁴ because matter is devoid of substantiality and causal power; nor can

²² *Prov.* 13 16–26: 'Ad hec etiam et Plato, ut estimo, respiciens dixit mixtam quidem huius mundi consistentiam ex intellectu et necessitate, intellectu principante necessitati, corporum motivam causam necessitatem vocans, quam et in aliis fatum appellavit, corporibus dans ab hoc cogi hiis que ab ipso moventur. Et hoc recte: omne enim corpus cogitur et facere quodcumque facit et pati quodcumque patitur, calefacere aut calefieri et infrigidare aut infrigidari; electio autem in hiis non est'.

²³ Concerning the various levels of Necessity in Proclus' system, see Van Riel's study in the present volume. Among the passages discussed by Van Riel, Dam., *In Phil.* 17.1–3 is particularly useful for our enquiry: 'Necessity has a threefold meaning: divine necessity, which is perfect and driven by the force of the Good; material necessity, which is deficient and goes together with weakness; or aim-directed necessity, like a sea travel for commercial purposes. That is the view of Proclus' (trans. Van Riel).

²⁴ Presumably, Numenius and Atticus: see Procl., *Theol. Plat.* V.31 114.1–4 (further references in the *ad loc.* comments by Saffrey and Westerink [1987]). Proclus describes matter at length in *In Remp.* II 204.23–205.27.

it be the goddess Ananke, who is superior to both the Moirai (her daughters) and Fate:

And if I must present my own opinion, Plato places these three causes of order in succession:Adrasteia, Ananke and Heimarmene; that is: the intellective cause, the supramundane and the intramundane. In fact, the Demiurge, as Orpheus says [fr. 162 Kern], is nurtured by Adrasteia, but has intercourse with Ananke and generates Heimarmene (*In Tim.* V 3.274.14–20; cf. *Theol. Plat.* VI.23 *passim*).

Hence, the goddess Ananke transcends the world, ruling it from ‘above’ (see also in *Remp.* II 205.27–208.25). In *De Providentia* 13, on the contrary, Necessity is constantly connected with bodies and explicitly equated with Fate: ‘quam et in aliis fatum appellavit [Plato]’ (13 20–21). The passage from the *Commentary on the Timaeus* previously quoted (*In Tim.* V 3.274.14–20) suggests that the Necessity in question here must be an intramundane Necessity: one that is inferior both to the intellective Necessity (*i.e.* Adrasteia) and to the supramundane Necessity (*i.e.* Ananke). To describe this third kind of Necessity, I would like to employ the term ‘natural’, as suggested by Isaac Sebastocrator, who entitled his own version of the Proclean treatise not *περὶ προνοίας καὶ εἰμαρμένης* but *περὶ προνοίας καὶ φυσικῆς ἀνάγκης*. In his *Commentary on the Republic* (cf. II 205.30–207.13) Proclus actually describes this ‘natural’ Necessity in exactly the same terms as in the *De Providentia*: Necessity, Proclus argues, is inferior to the Intellect and constantly in need of its guidance; it moves the bodies over which it rules but has no power over self-moving entities; it is ‘necessary’ only insofar as the entities controlled by it are incapable of making free choices (cf. *In Remp.* 206.18: ἀπροαίρετον, and *Prov.* 13 25–26: ‘electio autem in hiis non est’); finally, it corresponds to the εἰμαρμένη mentioned in the *Statesman* (272 c 5–6).

V. *Fate and Nature in the Platonic Theology and in the Commentary on the Timaeus*

After having shown that Fate, in *De Providentia*, coincides with natural Necessity, let us consider whether Proclus maintains the perfect equivalence of Fate and Nature in other texts, or whether some nuances can be detected here between the two terms. It would be difficult to draw

any definite conclusions on the matter from *Theologia Platonica* V.32.²⁵ Here Proclus writes that:

Nature, then, comes into existence together with the generation of the body. It is by means of Necessity, in fact, that the Demiurge generates the body, shaping it with the life proper to it; on this ground he, a little farther, after having brought particular souls into existence, ‘shows them both the Nature of the All and the laws of Fate’ [*Tim.* 41 e 2–3]. For it is on account of the fact that the Demiurge possesses the cause of the universal Nature and Fate, that he can reveal them to souls. The Demiurge does not revert towards the entities posterior to him; rather, it is because he has the things he reveals primarily in himself that he can reveal their potencies to the souls. Also preexisting within him are the model of the Nature of the All and the unique cause of the laws of Fate. For this reason, the source of Nature is called by the gods themselves the very first Fate:

‘Do not gaze at Nature: her name is Fate.’ [*Orac. Chald.* fr. 102 des Places; cf. fr. 54]

As a result of this Timaeus too says that the souls see simultaneously ‘the laws of Fate’ and ‘the Nature of the All’, that is: the intramundane Fate and its powers; and the Eleatic Stranger, in the *Statesman*, calls ‘Fate’ the moving cause of the natural, circular motion of the All: ‘and Fate and innate desire made the earth turn backwards’ [*Polit.* 272 e 5–6, trans. Fowler]. The Eleatic Stranger himself clearly agrees that the world receives this power from the Demiurge and Father; in fact, he states that the whole visible order and the circular motion belong to Zeus [cf. *Polit.* 272 b 2].

Plato, therefore, has shown that the world is perfected by these three causes which belong to the life-giving goddess and coordinated with the Demiurge: the spring-bowl, the source of virtues and the primary cause of Nature (*Theol. Plat.* V.32 118.24–119.26).

The section of the *Commentary on the Timaeus* (V 3.271.28 ff.) concerning the already mentioned ‘laws of Fate’ (*Timaeus* 41 e 2–3) is somewhat more revealing. At first, Proclus here rejects, among the other definitions, Porphyry’s definition of Fate as Nature ἀπλῶς (which is to say, as ‘simply’ or ‘absolutely’ Nature):

Having assumed this, and proceeding now to things at stake, we say that one should not define Heimarmene as the particular disposition of nature, as some Peripatetics, like Alexander, would have it... Nor simply

²⁵ See Brisson (2000) 153–155 (p. 155: ‘Par ailleurs, Proclus semble identifier la Fatalité à la Nature’).

‘Nature’, as Porphyry says; for Heimarmene entails many things that transcend or exceed Nature, like noble birth, glory, riches: which natural movements could bear in themselves the cause of these events? (*In Tim.* V 3.272.5–20; trans. Van Riel).

Proclus then provides his own definition of Fate, by referring to qualified Nature:

Now, if we must succinctly comprehend the idea of Heimarmene, we should call it ‘Nature’, referring to the substratum (κατὰ τὸ ὑποκείμενον),²⁶ but as divinised and full of divine, intellectual and psychic illuminations (*In Tim.* V 3.272.25–28; trans. Van Riel).

A few pages later, Fate is presented as being on more intimate terms with souls than Nature, suggesting a closer relation with the whole incorporeal realm:

Thus, once the souls have become intramundane, they see the force of Heimarmene, depending from Providence above, and they receive the laws of Fate. Indeed, whereas the Demiurge has ‘revealed’ them the Nature of All, this Nature being different from them, he ‘spells out’ the laws, as if he engraved the laws in them; for the words of the Demiurge penetrate into the very substance of the souls (*In Tim.* V 3.275.15–21; trans. Van Riel slightly modified).

To sum up: Fate is presented here as Nature with some qualifications, which emphasize its divine essence; in other words, Fate is Nature in its proper divine manifestation.²⁷ However, this in itself does not warrant a distinction between two different ontological levels and the postulation of a clear-cut subordination of Nature to Fate. The identity κατὰ τὸ ὑποκείμενον of Nature and Fate, as stated in *In Tim.* V 3.272.25–28, makes it more reasonable to assume the existence of only one reality, viewed now in one way, now in another: a state of affairs comparable with the multiple denominations of the unique Stoic principle.²⁸

²⁶ This is how-correctly in my view—Van Riel understands the expression (see too *In Tim.* III 2.37.14; III 2.153.30; *In Alc.* 322.3–5; *In Parm.* VII 1207.2–3). Festugière, by contrast, favours a different reading: ‘selon le texte sous nos yeux’.

²⁷ F. Romano ([1991] 2004) 237–238, ascribes to Iamblichus a full identification of Nature with Fate, on the basis of *Myst.* II.6 82.9 ff.; II.9 88.5 ff.; V.18 223.10 ff.; VIII.7 269.13 ff. Parthey. Stobaeus preserves another interesting passage from the *Letter to Sopater* (I.5.18 81.8–18), in which Nature and Fate are discussed; here too, however, it is difficult to detect any neat distinction between the two terms.

²⁸ See n. 21 above. It is worth quoting here a passage from the pseudo-Plutarchean *De Fato*, where definitions of Fate are seen to vary across different Platonic dialogues: ‘fate as described in the *Phaedrus* might be called a divine formula which, owing to a

VI. *General remarks on the Neoplatonic philosophy of nature*

Some concluding remarks on the transmission of proprieties from Fate-Nature to bodies.²⁹

According to Proclus, Nature is placed after Soul, as the last incorporeal principle that is not conceivable separately from bodies. Within itself, Nature has the rational principles, λόγοι, of all the beings that it creates and ensouls through a spiritual action which is neither voluntary nor conscious. These λόγοι are the last reflection of the archetypal Forms situated at a much higher level in the Proclean ontological hierarchy, namely in the third triad of the intelligible gods. This means that at least six degrees of ideal entities are found in between the λόγοι and their first principle.³⁰ Nature is the sum of its λόγοι; when abiding in Nature, these λόγοι correspond to its activity *of* the essence, when proceeding outside Nature, they correspond to its activity *from* the essence.³¹

Twofold are the acts and the powers of the gods. Some abide with the gods themselves, act in relation to them and find their goal in the degree of reality (ὑπόστασις) unique and unified with essence; others, by contrast, proceed from the first acts and powers, display their effective power in relation to inferior realities and exist together with the many who receive them and their essential specific character. And since there are two kinds of acts and powers, the second kind depends on the preceding one, determines itself in relation to the former and receives its own particular existence according to the former. For it is necessary that, everywhere,

cause free from impediments [reading ἀνεμπόδιστον instead of ἀναπόδραστον], is not transgressed; as described in the *Timaeus* it would be a law conforming to the nature of the universe, determining the course of everything that comes to pass; while as described in the *Republic* it is a divine law determining the linking of future events to events past and present' (568 D; trans. De Lacy-Einarson, slightly modified).

²⁹ For the Proclean conception of Nature, see esp. *Elem. Theol.* 21 (with the comments *ad loc.* by Dodds [1963] 208–209) and 111; *In Tim.* I 1.9.31–14.3; *In Parm.* III 791.21–795.6; VI 1045.32–35; *Theol. Plat.* VI.15–17; Rosán (1949) 115–116, 171 ff.; 182 ff.; Siorvanes (1996) 130–140.

³⁰ Forms or Ideas in the proper sense are obviously the archetypal ones; the rest, which proceed from those pure models, are increasingly imperfect 'images' of the former. See the table in Steel (1987a) 124 (on the ground of Procl., *In Parm.* IV 969.9–971.7 and III 803.5–806.14).

³¹ As generally known, the two kinds of activity (of the essence/from the essence) were clearly distinguished by Plotinus (see esp. *Enn.* V.4 [7] 2 and V.1 [10] 6–7). For both Plotinus and Proclus the λόγοι of Nature are unable to 'revert' towards their origin (see for example Procl., *In Tim.* I 1.12.25–27). On the way these λόγοι act, see too Procl., *In Parm.* III 792.16–20, discussed by Van Riel in the present volume.

the acts proceeding outside be images of the acts which abide inside, unravel their compact indivisibility, multiply their unification and divide their indivisibility.

According to this explanation, the act of Nature is twofold: one act abides in Nature, which, thanks to it, keeps herself, as well as the rational principle within her, together. The other act proceeds from Nature: thanks to it, bodies are filled by all the natural powers which, moved by Nature, affect one another and are affected by each other in a natural way (*Theol. Plat.* V.18 64.3–20).

These λόγοι/acts that abide in Nature are thus models of the λόγοι/acts that proceed from it; accordingly, the characteristics of the model change radically in the process of shaping the sensible world: what in the model, or cause, was unitary and indivisible, becomes plural and divisible in the copy or effect. Qualities and proprieties of the effect, *i.e.* bodies, differ, then, from the qualities and the proprieties of the cause, as stated in *Prov.* 8 14–15: ‘faciens non est tale, quale factum’. On these premises, let us consider another passage from the *Commentary on the Timaeus*. At issue are still the laws of Fate of *Tim.* 41 e 2–3; a few lines after the above mentioned distinction between Adrastea, Ananke and Heimarmene is drawn, Proclus poses a rhetorical question:

What is surprising in the fact that Nature too moves masses thanks to the material and corporeal powers that she has put within them, for instance earth by means of heaviness and fire by lightness? (*In Tim.* V 3.274.32–275.4)

This short sentence proves interesting in many respects. Firstly, it is worth noting the reference to heaviness and lightness, which, like the reference to bodies turning hot or cold in *Prov.* 13 22–25, can be traced back to the list of physical proprieties provided in the *Laws*. In a well-known passage of this dialogue discussing the priority of Soul and its functions with respect to bodies, Plato states that:

Soul drives all things in Heaven and earth and sea by its own motions, of which the names are wish, reflection, forethought, counsel, opinion true and false, joy, grief, confidence, fear, hate, love, and all the motions that are akin to these or are prime-working motions; these, when they take over the secondary motions of bodies, drive them all to increase and decrease and separation and combination, and, supervening on these, to heat and cold, heaviness and lightness, hardness and softness, whiteness and blackness, bitterness and sweetness, and all those qualities which soul employs, both when, in conjunction with reason, it runs aright and always governs all things rightly and happily, and when, in converse with unreason, it produces results which are in all respects the opposite (*Plato, Leg.* X 896 e 8–897 b 4; trans. Bury).

A second striking feature of the Proclean sentence quoted above, is the fact that it resembles Alexander of Aphrodisias' *De Fato* 13, which almost perfectly matches *SIF* II.979. Here, the natural behavior of a stone, due to its weight, is ascribed to Fate, thus recalling Proclus' equation of Nature, natural Necessity and Fate:

...For it is not possible for the stone, if it is released from some height, not to be carried downwards, if nothing hinders. Because it has weight in itself, and this is the natural cause of such a motion, whenever the external causes which contribute to the natural movement of the stone are also present, of necessity the stone is moved in the way in which it is its nature to be moved; and certainly it is of necessity that those causes are present to it on account of which it is then moved. Not only can it not fail to be moved when these [causes] are present, but it is moved then of necessity, and such movement is brought about by fate through the stone. And the same account [applies] in the case of other things, too... (Alex. Aphr., *Fat.* 13 181.13 ff. Bruns; trans. Sharples).

Thirdly, while interpreting in *Tim.* V 3.274.32–275.4, it is worth bearing in mind that the status of 'physical' properties in the cause (*i.e.* in the incorporeal λόγοι inside Nature) differs from that of 'physical' properties in bodies. While heaviness, lightness, warmth, coldness and similar properties found in incorporeal principles are the causes of the same proprieties in bodies, they are not really comparable with them. The least that can be said, is that such proprieties are not heavy, light, warm or cold in the way that bodies are heavy, light etc.; and this for the same reason that the Platonic idea of White cannot be 'white' in the same way as a wall is 'white'.³²

Bearing all this in mind, it is possible to reach a better understanding of the Neoplatonic conception of the physical world. According to the Neoplatonists, the 'natural' order (*i.e.* bodies and their qualities, as well as the ways in which bodies act and interact) is not an independent order separate from the transcendent order of its divine causes.³³ Rather, the natural order must be viewed as the necessary aspect of the divine order in its corporeal appearance. In other words, it is not the case that two or more distinct orders exist: there is only one order, capable of assuming different shapes, according to the different levels at which it manifests itself. Hence, I agree with Michael F. Wagner, who, with reference to the founder of Neoplatonism (but the same could be said

³² See esp. Plot. *Enn.* II.4 [12] 9; I.2 [19] 6; VI.6 [34] 17.

³³ Contrast with the *Timaeus* (see above, n. 4).

of many other Platonic philosophers), remarks that: 'Plotinus speaks at times as if there were, on the one hand, a sensible world and, on the other hand, an intelligible world, even though in fact there is just the single vertical order and its various levels of reality—the sensible world being just its lowest level, a final image or manifestation of its substance and its principles'.³⁴

In conclusion, the value of Neoplatonic physics should not be measured from its attempts to develop a coherent conception of reality—in this respect I believe that the Neoplatonists were successful—but rather from its capacity to provide rational explanations of natural phenomena in all their complexity and multiple aspects.³⁵

³⁴ Wagner (2002) 301. The status of bodies as 'appearances' or 'phenomena' is well described in Wagner (1985).

³⁵ I am very grateful to Robbert van den Berg for his careful reading of the first draft of this paper and for all the valuable suggestions he provided.

THE INTEGRATION OF ARISTOTELIAN PHYSICS IN A NEOPLATONIC CONTEXT: PROCLUS ON MOVERS AND DIVISIBILITY

Jan Opsomer

nullum corpus nisi divisibile intelligamus, contra autem nullam mentem nisi indivisibilem
(R. Descartes, AT VII 13.20–21)

I. *Introduction: motion in the physical and spiritual realms*

Radically different as they may be,¹ Plato's and Aristotle's theories of motion were harmonised and integrated into an encompassing theory by Proclus and other late Neoplatonists. In a nutshell, whereas Aristotle substituted the notion of an unmoved mover for Plato's self-moving soul, Proclus incorporates both principles of motion and makes the self-movers subordinate to unmoved movers, assigning them to the levels of soul and intellect, respectively.

Both Plato and Aristotle start from the fundamental premise that there can be no infinite series of extrinsically moved movers: a causal series needs to have a beginning, *i.e.* needs to be headed by a moving cause that is not itself moved by anything external to it. In Plato's view this first principle of motion is moved by itself,² according to Aristotle it is not moved at all.³ It is often believed that Aristotle simply substituted unmoved movers for Platonic self-movers, but that is to make things simpler than they are. At *Phys.* VIII.5 258 a 3–21 Aristotle argues that self-motion is (non-eliminatively) reducible to an unmoved mover within the self-mover; it is this unmoved mover that is then the true moving cause. Yet the unmoved part of self-movers is not strictly speaking unmoved, since it is moved accidentally. And that is why self-movers

¹ Vuillemin (1991) 29 systematically compares both theories of motion, yet given the unclarity of Plato's view he has to rely on reconstructions that may be open to debate.

² *Phaedr.* 245 d 7: κινήσεως μὲν ἀρχὴ τὸ αὐτὸ αὐτὸ κινεῖν.

³ Plotinus alludes to Aristotle's argument at *Enn.* III.1 [3] 1.

cannot constitute the first principle of change—more precisely because they are unable to cause a continuous motion.⁴ What is needed to stop the causal regress, according to Aristotle, is a mover that is unmoved in an absolute sense.⁵

Aristotle restricted motion to the physical world, as for him there is no other world than the physical. The unmoved movers⁶ do not belong to this world (they do not intervene in it nor are they touched by it), and they are, as their name makes plain, not in motion. That is different for Platonic souls, which, though being incorporeal, are immanent and, more importantly, in motion. This means that Plato, contrary to Aristotle, accepts spiritual motion, *e.g.* for souls.⁷ In the *Sophist* he moreover counts motion among the five greatest kinds, thus introducing motion, *i.e.* dynamism, in the realm of Forms.⁸

Proclus essentially combines Plato's and Aristotle's arguments in favour of a first cause of motion, adopts the Platonic notion of spiritual motion, and accepts Aristotle's kinematics⁹ as an analysis of the

⁴ *Phys.* VIII.6 259 b 20–22. Cf. Gill (1991) 243, 255–256; Manuwald (1989) 28–32; Morison (2004) 71, 75, 78–79.

⁵ This addresses the question asked by Sorabji (1988) 222–223.

⁶ I take *Metaph.* XII.8 to be an integral part of the Aristotelian theory, and shall not here complicate matters unnecessarily by speculating about different stages of Aristotle's thought. See also *Phys.* VIII.6 258 b 10–11: ἀνάγκη εἶναι τι αἰδίον ὃ πρῶτον κινεῖ, εἴτε ἐν εἴτε πλείω.

⁷ Vuillemin (1991) 198 claims that for Plato '3. Selfmotion precludes in itself any distinction between mover and moved, or action and passion. 4. Selfmotion is a purely spiritual motion without relation to space or to any motion which proceeds in space and is a possible object of sensation.' These specifications would make Plato's view virtually immune to the main criticisms formulated by Aristotle and would make self-motion almost indistinguishable from the activity of an unmoved mover. If self-motion is not motion in a physical sense at all, there would be no reason for Aristotle to call it motion and the disagreement between the two thinkers would turn out to be essentially terminological. Yet it is questionable whether Plato really held the view which Vuillemin accredits to him. *Phaedr.* 245 cd certainly suggests a distinction between active and passive motion within the self-moving soul (245 c 7–8: τὸ αὐτὸ κινεῖ... οὐποτε λήγει κινούμενον, and d 7: κινήσεως... ἀρχὴ τὸ αὐτὸ αὐτὸ κινεῖ) and in the *Timaeus* the moving soul is undeniably spatially extended (36 b–37 c). This notwithstanding, a denial of a distinction between activity and passivity (in the Aristotelian sense) within self-movers seems to me to be exactly what Plato would need.

⁸ Simp., *In Phys.* 404.16–33, reports that for Proclus the *only* important difference between Aristotle's and Plato's theories of motion consisted in the latter's doctrine of the five highest forms in the *Sophist*.

⁹ Cf. White (1992) 32: '[K]inematics deals with motion of bodies *without reference to* either masses or the forces acting on them. That is, kinematics is the study of the geometrically or topologically *possible* motion of a body or system of bodies.' According to the customary classification kinematics is one of the three parts of mechanics, besides statics and dynamics (the latter is concerned with the relation between the motion

conditions of physical motion. In sections II to IV I examine the difficulties that result from the combination of Plato's and Aristotle's arguments for a first cause of motion, and in section V and VI the problems associated with the notions of spiritual motion, especially those due to the application of notions such as continuity and divisibility, that are used to analyse the realm of physical motion.

Proclus welcomes Aristotle's arguments showing that physical motion presupposes a continuum, both of space and time, and that physical motions ultimately require non-physical efficient causes. Proclus thinks that Aristotle fails to deliver such a cause, since he—with many others—takes Aristotle's unmoved mover to be a final cause only.¹⁰ As we will see, this interpretation was contested by Ammonius and Simplicius, and is fiercely debated in contemporary scholarship. I myself tend towards the view¹¹ that Aristotle meant his unmoved mover to be an 'efficient' cause too, at least in the original Aristotelian sense of 'first principle of motion' or 'cause explaining motion'. This sense, however, is different from the scholastic *causa efficiens* and from what Proclus understood an efficient cause to be. An Aristotelian unmoved mover is not an efficient cause in the sense required by Proclus, since it is not a cause that actually *does* something towards its effect. More precisely, it does not through its action directly cause an external motion. Moreover, Proclus' unmoved movers are efficient causes in the broader Neoplatonic sense of 'productive' causes, which includes, but is not limited to, being a cause of motion.¹²

As soon as we start to look at the details of Proclus' theory, it will become clear that various elements of this outline need to be qualified in important ways. I postpone spiritual motion until section VI, and first focus on Proclus' account of 'Aristotelian', *i.e.* physical motion and its causes. As a result of Aristotle's analysis continuity is admitted to be a necessary condition for being in motion, but at the same time nothing with a continuous nature can be the first efficient cause of motion. Since the efficient causes of motion are themselves non-physical, Proclus' account will encompass incorporeal movers. This should be

of a body, the forces acting on it, and their mass). For Proclus' physics it is primarily Aristotle's kinematics that is important.

¹⁰ Cf. *In Tim.* I 1.2.15–22, and below, n. 43.

¹¹ I am persuaded by the line taken by Judson (1994).

¹² The importance of efficient causality can be gathered from Proclus' words in the introduction to the *Timaeus Commentary*, esp. I 1.3.7–10, and the implicit criticism of Aristotle at I 1.2.15–29.

no cause for surprise. Proclus indeed sticks to the Neoplatonic axiom that *all* true causes are incorporeal¹³ (for Aristotle that is true only of the first, unmoved causes). Material causes are merely auxiliary rather than true causes.¹⁴ Proclus further elaborates a hierarchy of movers, which he assigns to different hypostatic levels. So an investigation into physical motion leads straight away to the spiritual realm (by this term I designate the entire ontological level from the soul upwards). Yet the search for the efficient causes of motion looks at these incorporeal entities only as active powers of motion, not insofar they are themselves moved. An account of spiritual motion would also entail passive motion, the state of being in motion. Spiritual motion is a highly problematic notion, as will become clear. For how could one speak of passivity in the case of entities that seem to be active *par excellence*? Moreover, does it make sense to speak of motion for things that are incorporeal and have none of the characteristics of bodies, such as being located in a continuum? One would suspect that the application of concepts from Aristotle's physics to the realm of Platonic incorporeals can only lead to trouble. As we shall see, Proclus did not avoid these difficulties entirely. He imports certain Aristotelian notions to the realm of the incorporeal and locates some form of passive motion in the higher world. Be that as it may, it is clear that we will need a different conception of motion in order to account for spiritual motion. But for now I shall stick to my promise and turn to physical motion first.

I shall first look at Proclus' Aristotelian argument in the *Elements of Physics*, next examine its function within a Neoplatonic metaphysical context in the *Elements of Theology*, then give a brief account of more complex hierarchies of motion in other works, especially in the *Platonic Theology*, and finally examine the application of notions like 'continuum' and 'motion' to the spiritual realm, more particularly in the cases of geometric objects and spiritual motion.

¹³ *Elem. Theol.* 80; Steel (2002) 80–84.

¹⁴ *In Tim.* I 1.2.1–9.

II. *The Elements of Physics and the Aristotelian argument for an unmoved mover*

The first place to look for an account of physical motion is the *Elements of Physics*. This work is essentially a fairly intelligent summary of parts of Aristotle's *Physics* and *On the Heavens*, and hence not 'original'.¹⁵ Yet there is no reason why one should suppose that Proclus did not endorse the views and arguments expressed in this little treatise. After all, he took the trouble to write it up (I see no reason to doubt its authenticity—what is more, the connections with ideas expressed in other works are a strong argument in favour of its authenticity). Moreover, Proclus has added some arguments of his own.¹⁶ In my view, the doctrines and arguments found in the *Elements of Physics* are an integral part of his physics.¹⁷ The text is carefully constructed and establishes as the conclusion of the first book that the quantitatively indivisible is unmoved,¹⁸ since physical motion requires (infinite) divisibility, more precisely the divisibility of space, time and of motion itself.¹⁹ The second book builds up to the proof that the cause of the perpetual circular motion of the universe is indivisible and unmoved. In other words, the physical continuum is contrasted with the indivisibility of the first cause of motion.

The continuum is that which is divisible anywhere, *i.e.* infinitely divisible.²⁰ Proclus adopts in essence Aristotle's notion of the continuum, according to which infinite divisibility is implied by continuity: no continuum can be partitioned in such a way that any of the resulting

¹⁵ For an introduction to this text see Ritzenfeld (1912), and recently Nikulin (2003), and the comments on this paper: Kutash (2003). Nikulin, however, mistranslates and therefore misunderstands prop. II.19: the unmoved is not prior to the movers *and* to the moving [things], as Nikulin (2003) 190, 209 has it, but to the *moved movers* (τῶν κινούντων καὶ κινουμένων ἡγεῖται τὸ ἀκίνητον).

¹⁶ A clear example is *Elem. Phys.* II.19 56.15–27. On Proclus' methodology, see Linguisti (2007); O'Meara (1989) 177–179. O'Meara and Linguisti are right to point out that for Proclus Aristotle's *Physics* had a limited value (see esp. *In Tim.* I 1.7.15–16; II 1.237.17–19; V 3.323.31–324.2). Nonetheless, as far as Aristotle's analysis of time, motion, and place is concerned, Proclus appears to be rather favourably disposed towards him: cf. *In Tim.* I 1.6.24–26.

¹⁷ This is a somewhat stronger claim than that of Siorvanes (1996) 247.

¹⁸ *Elem. Phys.* I.31: Πᾶν τὸ ἀμερὲς ἐν ποσῷ ἀκίνητόν ἐστι καθ' ἑαυτό.

¹⁹ *Elem. Phys.* I.11: Πᾶς χρόνος ἐπ' ἄπειρον διαιρεῖται καὶ πᾶν μέγεθος καὶ πᾶσα κίνησις.

²⁰ Two bodies are continuous when their limits are one. Cf. *Elem. Phys.* I def. 1: Συνεχὴ ἐστίν, ὧν τὰ πέρατα ἓν. For infinite divisibility see *Elem. Phys.* I.5: Πᾶν συνεχὲς διαιρετόν ἐστιν εἰς ἀεὶ διαιρετά.

parts would itself be indivisible.²¹ This analysis applies to magnitude, time, and motion.²² According to Aristotle's account of continuity nothing indivisible can be continuous with any other indivisible thing²³ and nothing which consists of indivisibles could be a continuum.²⁴ The whole realm of material body²⁵ is characterised by mathematical continuity. The matter out of which sensible bodies are constituted is infinitely divisible. All bodies are extended and everything that is extended is divisible.²⁶ Hence there are no physical indivisible lines.²⁷

Divisibility is a necessary condition for movement: the thing moved needs to be divisible,²⁸ the distance over which it is moved must be infinitely divisible, and the same applies for the time span over which

²¹ *Phys.* VI.1 231 b 15–16. On the precise relation between continuity and infinite divisibility in Aristotle, see White (1992) 8 and 30. Sometimes Aristotle seems to identify the two concepts, but in his more accurate accounts he treats infinite divisibility as a consequence of his definition of continuity ('The continuous is a subdivision of the contiguous: things are called continuous when the touching limits of each become one and the same and are, as the word implies, contained in each other', *Phys.* V.3 227 a 10–12). Proclus adopts this line (see previous note). Aristotle argues that a division of an extended magnitude into points is impossible. See also 231 a 26–b 6; Bostock (1991) 180–188; White (1992) 17, 26–28. Aristotle moreover had the notion of density (cf. *Phys.* V.3 227 a 30–31; VI.1 231 b 6–10), which is also constitutive of Proclus' conception of continuity.

²² *Phys.* VI.1 231 b 18–20. Cf. Procl., *Elem. Phys.* I.11.

²³ Cf. Procl., *Elem. Phys.* I.4.

²⁴ *Phys.* VI.1 231 b 15–18. According to White (1992) 29–31, this is objectionable from the perspective of contemporary topology, which sees continuity as a supervenient property. Modern mathematics tends to treat continuous magnitude as constituted of indivisible elements (such as sets of points). Whereas for Aristotle, and for Proclus, there is a radical discontinuity between numerable groups and measurable magnitudes, between discrete and continuous quantity, this is not the case from the contemporary perspective. White (1992) 32: 'The classical modern conception...appeals to a point-set ontology of the continuous. That is, a continuous n -dimension magnitude is conceived as a set of $(n-1)$ -dimensional entities. In the particular case of a linear or 1-dimensional magnitude (e.g. a lapse of time, a linear spatial interval), the magnitude is conceived as a set of points. Such a set will be a non-denumerably infinite, linearly ordered collection of points satisfying certain other requirements'. The requirements are density and Dedekind-continuity (see White (1992) 33). Ironically, in Proclus' philosophy it is precisely the discontinuity between discrete and continuous magnitude which makes the transition from the 'indivisible' or 'unextended' to the 'divisible' or 'extended' so problematic.

²⁵ For Proclus' view on the structure of matter and space, see Gerd Van Riel's contribution to the present volume.

²⁶ Cf. *Theol. Plat.* II.2 18.7–9: τὸ γὰρ διαστατὸν πᾶν μέρη τε ἔχει καὶ διαιρετόν ἐστιν... πᾶν... σῶμα διαστατόν.

²⁷ *Elem. Phys.* I.14; *In Eucl.* 279.4–6. Cf. Simp., *In Phys.* 1333.36–1334.10.

²⁸ *Elem. Phys.* I.19: Πᾶν τὸ κινούμενον μεριστόν ἐστιν. Cf. Arist. *Phys.* VI.4 234 b 10–20.

it is in motion. This presupposes that time, space and body are continuous.²⁹ This is shown in the first book of the *Elements of Physics*. The analysis of continuity as a prerequisite for motion leads to the natural conclusion that the quantitatively indivisible is in itself unmoved (or ‘unmovable’, which amounts to the same thing).³⁰ Proclus further argues that if there is to be an everlasting motion it can only be topical, and more precisely, circular.

The second book retraces Aristotle’s arguments, compiled from *De Caelo* I and *Physics* VIII, for the existence of a first mover that needs to be indivisible—and hence unmoved and incorporeal. In order to arrive at this conclusion Proclus first gives an account of circular motion, explains that it is spatially limited (*Elem. Phys.* II.1–6), and argues against the existence of an infinite sensible body (II.15).³¹ Next he states that time is continuous and everlasting (II.16), and argues, based on the elements he has carefully laid out beforehand, that this presupposes an everlasting motion, which must be circular (II.17). The mover causing this motion must be equally everlasting (II.18). The next proposition (II.19) asserts the priority of the unmoved over moved movers (movers that move by being in motion). Proclus gives a short and rather unconvincing argument for this proposition.³² Prop. 20 states that everything moved

²⁹ See also Arist., *Phys.* VI.4 235 a 15–17: ἀνάγκη τὰς αὐτὰς εἶναι διαιρέσεις τοῦ τε χρόνου καὶ τῆς κινήσεως καὶ τοῦ κινεῖσθαι καὶ τοῦ κινουμένου καὶ ἐν ᾧ ἡ κίνησις. *Metaph.* XII.6 1071 b 6–11: ἀλλ’ ἀδύνατον κίνησιν ἢ γενέσθαι ἢ φθαρῆναι (ἀεὶ γὰρ ἦν), οὐδὲ χρόνον. οὐ γὰρ οἷόν τε τὸ πρότερον καὶ ὕστερον εἶναι μὴ ὄντος χρόνου· καὶ ἡ κίνησις ἄρα οὕτω συνεχὴς ὥσπερ καὶ ὁ χρόνος· ἡ γὰρ τὸ αὐτὸ ἡ κινήσεώς τι πάθος. κίνησις δ’ οὐκ ἔστι συνεχὴς ἀλλ’ ἡ κατὰ τόπον, καὶ ταύτης ἡ κύκλω. For the relation between divisibility and continuity see n. 21. In *GC* II.10 337 a 22–24 Aristotle argues from the continuity of time to that of motion (if time is continuous, it is necessary that motion be continuous; for there can be no time without motion); in *Phys.* IV.11 219 a 12–14 he argues from the continuity of motion to that of time.

³⁰ *Elem. Phys.* I.31 (cited in n. 18). Cf. Arist., *Phys.* VI.10 240 b 8–13.

³¹ The first and second proofs are based on *Elem. Phys.* II.6–10 and II.11–13, respectively; the third and fourth are drawn from Arist., *Cael.* I.7 275 b 12–25.

³² The proposition is drawn from *Phys.* VIII.5, the argument is Proclus’ own. The argument takes the form of a *reductio ad absurdum* of the idea that only moved movers exist. Suppose everything comes to a halt, so the argument starts. For that is possible, and what is possible will happen (of course Proclus can say this only because the classical thermodynamic law of the conservation of energy was inconceivable for him; compare *Phys.* VIII.5 256 b 8–10). The state of complete rest is imagined as lying in the future, rather than at the origin of things. The question, which remains implicit, is: How can things start moving again? Proclus envisages two possibilities: (a) an infinite chain of moving causes, and (b) circular causation of motion. In case (a) we would have a physical mass that is infinite in actuality, which has been shown to be impossible (*Elem. Phys.* II.14–15). In case (b) the cause of a perpetual motion would be a thing

is moved by something.³³ Proclus envisages two possibilities: motion is natural or violent. Proclus truncates Aristotle's argument³⁴ to the point that it becomes unintelligible, but the conclusion is clear: whatever the type of motion, natural or violent, a mover is always needed.³⁵

In the final proposition Proclus draws the conclusion that the first mover of the (everlasting) circular motion is itself indivisible.³⁶ It follows from the previous proposition that there must be a mover of the everlasting circular motion. In order to determine the nature of this mover Proclus offers two arguments. The mover he looks for must be indivisible, he says, for according to prop. 19 moved movers are preceded by the unmoved. This inference presupposes that every unmoved thing is indivisible. However, this hidden premise is not warranted by the previous arguments. Proclus has so far merely argued that everything indivisible is unmoved, not the other way around. Proclus tacitly introduces the equations: the incorporeal = the indivisible = the unmoved; the corporeal = the divisible = the moved. Plausible as these may be in a Neoplatonic ontological context, they have no business in a work like the *Elements of Physics* if they have not been argued for.³⁷ The equation 'indivisible = incorporeal' should either have received an adequate

that is occasionally in motion (τι τῶν ποτὲ κινουμένων). And that is impossible, claims Proclus. The idea is that one (limited) physical thing cannot move the whole. It is, however, far from clear why one thing should have to cause the motion of the entire universe. Many moving things could each bring about little motions, which together would add up to the motion of the whole. There is no need then for a moved mover that alone causes a perpetual motion. Another possibility not mentioned by Proclus is the intervention of a self-mover. The reason is probably that he does not accept that there are such things as self-movers in an absolute sense, as all self-motion is reducible to an unmoved mover. Self-movers therefore constitute a complication that would not fundamentally change things (compare *In Tim.* IV 3.9.7–13). In the *Elements of Theology*, however, the argument is broadened to include self-movers (section III).

³³ The principle that every motion is caused is stated in *Tim.* 28 a 4–6.

³⁴ Arist., *Phys.* VIII.4 254 b 7–256 a 3. Proclus summarises only 255 b 31–256 a 3.

³⁵ We can infer from other works how Proclus would fill in this argument in accordance with his own Platonist principles. In the case of natural motion, nature (an incorporeal principle) would be the immediate mover, which would of course not exclude the activity of higher movers acting mediately through nature. Motion against nature is explained in Proclus' treatment of evil: what is for some thing against nature is always caused by rational principles belonging to another thing. cf. *Mal. Subs.* chs 27–29; 48 17–18 ('dissimilium incommensurata communio et mixtio'; cf. Opsomer–Steel [2003] 143); 50; 60 9–21; *In Parm.* II 739.27–740.5; *Theol. Plat.* 1.18 85.24; Opsomer–Steel (2003) 24–26.

³⁶ *Elem. Phys.* II.21: Τὸ πρῶτον κινοῦν τὴν κύκλῳ κίνησιν ἀμερές ἐστιν.

³⁷ This gets explained and supported by arguments in the *Elements of Theology*: cf. *infra*, p. 208.

demonstration, or have been posited from the outset as an assumption. Matters are made worse by the fact that Proclus' first argument relies not only on this implicit assumption, but also on prop. 19, the argument for which, as we have seen, is seriously flawed.

The second argument by which Proclus tries to show the nature of the first mover is more promising. Since the mover we are looking for causes an everlasting motion, Proclus argues, his power is infinite; for an infinite activity can only stem from an infinite power. The mover must be either a body or incorporeal. If it is a body, it is either finite or infinite. It cannot be infinite, since Proclus has proven that there can be no infinite physical body (II.15); and even if there were, it would be impossible for it to move a finite body (II.12). If the mover is a finite body, it does not have an infinite power; for the power of spatially limited beings is limited.³⁸ Therefore the mover of the everlasting motion cannot be a body, and hence is incorporeal with infinite power.³⁹ And what is incorporeal is indivisible. And what is indivisible is unmoved (II.19).

Once more, Proclus appeals to a premise that comes out of the blue. He has only shown that everything moved is divisible (II.19). Only if all bodies are moved could one infer that all bodies are divisible. But that does still not entail that everything incorporeal would be indivisible.⁴⁰ Proclus introduces the latter premise without argument. As a matter of fact, he brings in the notion of the incorporeal only at the very end of the work, when he claims that everything is either corporeal or incorporeal. The incorporeal is of course not part of the subject matter of a treatise on physics. What the final argument of the *Elements of Physics* establishes more or less successfully,⁴¹ is the conclusion that

³⁸ *Elem. Phys.* II.8: τῶν πεπερασμένων κατὰ τὸ μέγεθος σωμάτων οὐκ εἰσιν αἱ δυνάμεις ἄπειροι. See also II.15; II.18–21; *In Tim.* II 1.267.23–24; *Theol. Plat.* III.6 20.25–21.1; Procl., *ap. Philop., Aet. Mun. C. Proc.* 238.9–11; 297.27–298.2; Syr., *In Metaph.* 118.2–3. Arist., *Phys.* VIII.10 266 a 27–28: ὅτι δ' ὅλως οὐκ ἐνδέχεται ἐν πεπερασμένῳ μεγέθει ἄπειρον εἶναι δύναμιν. Sorabji (2004) 168–170; Steel (1987b).

³⁹ See also *Theol. Plat.* III.6 21.1–2; Procl., *ap. Philop., Aet. Mun. C. Proc.* 239.16–21. In *Elem. Theol.* 86 Proclus argues that true being is infinite neither in number nor in size, but in power (Πᾶν τὸ ὄντως ὄν ἄπειρόν ἐστιν οὔτε κατὰ τὸ πλῆθος οὔτε κατὰ τὸ μέγεθος, ἀλλὰ κατὰ τὴν δύναμιν μόνην), and posits a link between indivisibility and power (p. 78.28–29: διὸ κατὰ ταῦτόν ἀμερὲς ἐκεῖνο καὶ ἄπειρον). Cf. prop. 61.

⁴⁰ See also Nikulin (2003) 192: 'However, from the premises that every body is divisible and that the prime mover is not a body, it does not follow that the prime mover is indivisible.'

⁴¹ Of course the whole argument still hinges on the premodern assumption that an infinite power is required to move a finite body over an infinite time. Cf. Arist., *Phys.*

the mover of an unending motion must be incorporeal. The argument would require some more work in order to allow the further conclusion that this mover is indivisible, from which it would follow that it is also unmoved. To show that the incorporeal is not divisible should not be too difficult, however (especially not if 'divisible' is understood as spatially divisible).⁴²

The overall argument of the *Elements of Physics* tries to establish the necessity of an unmoved *efficient* cause of motion. This conforms to the last book of Aristotle's *Physics*. Book *Lambda* of the *Metaphysics*, in which Aristotle specifies the nature of the first mover, seems to supplement the argument of the *Physics*. However, it is not clear that book *Lambda* provides the efficient cause required by the *Physics*. Aristotle's self-thinking unmoved mover is surely a final cause, but whether it is also an efficient one has always been and must remain a matter of debate. Proclus understands Aristotle as claiming that the unmoved intellectual cause of motion is indeed merely a final cause. Against this allegedly Aristotelian view Proclus argues that the unmoved mover must also have efficient causality. A reader of either the *Elements of Physics* or Aristotle's own *Physics* would expect nothing less. What is needed is a principle that initiates motion. But even that would not be enough for Proclus. For Neoplatonists take efficient causes to be much more than just causes of motion. They understand efficient causes (ποιητικὰ αἰτίαι) as productive, and hence require that the unmoved mover, or rather the unmoved movers, produce. The entities that give motion to the universe are also those that give it existence. Since the universe is neither capable of producing itself nor of preserving itself, a productive cause is required which permanently produces the cosmos and thus keeps it in existence.⁴³ More or less as a result of this, it is also the cause of its motion.⁴⁴ This idea is confirmed by *In Tim.* II 1.267.20–24, where

VIII.10 266 a 12–24, with Ross (1936) 722: 'He has in fact no conception of the First Law of Motion, that if a body has once been set in motion it will continue to move till it is acted on by some fresh force.' See also Graham (1999) 167–170, 173.

⁴² Aristotle argues somewhat differently: he shows that the first mover cannot be spatially extended (has no magnitude), and hence is indivisible. Cf. *Phys.* VIII.10, esp. 266 a 10–12. Proclus' argument would have been stronger if he had stuck closer to the Aristotelian strategy, by first proving that the first mover is not spatially extended and hence indivisible. From there he could have inferred that it is incorporeal. This last step is not taken by Aristotle in the *Physics*. In fact he makes the first mover into an 'ontological hybrid', by granting it position. See Graham (1999) 180–181.

⁴³ Sorabji (1988) 252–253; Steel (2003) 180.

⁴⁴ *In Tim.* I 1.3.7–10: ἐπεὶ γὰρ τὸ ὕπ' ἄλλου κινούμενον ἥρτηται τῆς τοῦ κινούντος

Proclus argues that, just as the sempiternal motion of the universe, also its everlasting existence requires an infinitely powerful cause, since a finite body can never contain an infinite power.⁴⁵ A different argument is offered in the *Commentary on the Parmenides*: a final cause, being the cause to which a thing aspires, imparts to that thing what is good for it. If that is so, it also has to give existence to that same thing. Proclus here refers to the Neoplatonic conception of causation, according to which procession/production is closely associated with reversion. The *good* a particular being receives from a cause is identical with the *being* it receives from it.⁴⁶

Proclus⁴⁷ argued that Aristotle failed to see this; Simplicius, on the contrary, claims that Aristotle considered his unmoved mover to be an efficient cause. In this Simplicius follows his teacher Ammonius, who held that Plato and Aristotle are in essential agreement on the first efficient cause of motion. Ammonius even dedicated a whole monograph to this issue.⁴⁸ Proclus' argument for the necessity of a first productive cause relies on the idea that an infinite power is necessary in order to give the universe everlasting motion and existence.⁴⁹ Since bodies do not possess this kind of infinity, it must stem from some incorporeal and indivisible nature.⁵⁰ Only thus can an infinite power be impressed

δυνάμεως, οὔτε παράγειν ἑαυτὸ δηλαδὴ πέφυκεν οὔτε τελειοῦν οὔτε σφάζειν, ἐν πᾶσι δὲ τούτοις τῆς ποιητικῆς αἰτίας δέεται καὶ ὑπ' ἐκείνης συνέχεται. Also I 1.2.21–29. The verb ἀρτᾶσθαι is often used in Neoplatonic ontology, yet it is remarkable that it is also used by Aristotle at *Metaph.* XII.7 1072 b 13–14: ἐκ τοιαύτης ἄρα ἀρχῆς ἡρτηται ὁ οὐρανὸς καὶ ἡ φύσις (also IV.2 1003 b 16–17). The unmoved mover is already presented as providential and as a synectic cause in ps.-Arist., *Mun.* 397 b 9, 400 a 3–8, 400 b 8–15. See also Stob., *Ecl.* I.22.1 196.9–11 (= Ar. Did., *Fr. Phys.* 9 = *DG* 450.15–16; cf. Mansfeld–Runia [1997] 242). In both texts a Stoic influence is detectable.

⁴⁵ Cf. Steel (1987c) 219–220.

⁴⁶ *In Parm.* III 788.8–19; IV 922.1–23. See also *Elem. Theol.* 34 cor. 38.3–8. Cf. Steel (1987c) 215–217.

⁴⁷ Proclus' teacher Syrianus argues that Aristotle made the separate forms—i.e. the unmoved movers—final causes, yet should admit, on his own premises, that they are productive too: *In Metaph.* 117.25–118.15. Asclepius says that Aristotle in the case of sempiternal beings only looked for a final cause, and reports that Syrianus explains this peculiarity by the fact that it was for Aristotle self-evident that god is the cause of sempiternal beings. He thus tacitly made the unmoved movers efficient causes: Ascl., *In Metaph.* 450.20–23. Cf. Sorabji (1988) 250–251, 278–279.

⁴⁸ Simp., *In Phys.* 1363.4–14. On the whole debate, see Steel (1987b), (1987c), Sorabji (2004) 165–168 (with translations of the primary sources), and Sorabji (1988) ch. 15.

⁴⁹ *Theol. Plat.* II.2 18.17–19: Εἰ δὲ ἀφθαρτός ἐστι, δύναμιν ἔξει τοῦ μὴ φθίρεισθαι, καὶ ταύτην ἄπειρον ἵνα ἐπ' ἄπειρον ἢ τὸν ὅλον χρόνον. See also *Theol. Plat.* III.6 20.10–21.9.

⁵⁰ In *Theol. Plat.* II.2 18.21–22 Proclus specifies that the infinity mentioned in this

upon the cosmos.⁵¹ Were the power not infinite, it would be exhausted at some point and there would be no more motion, and the cosmos would long have ceased to exist.

One could wonder why the impression of an infinite power does not lead to an infinite velocity.⁵² One possible answer would be that the amount of energy emanating from an unmoved mover at any single moment would be finite. The delivery of power would be piecemeal. The Neoplatonic answer, however, is rather that the universe, which is a finite body, can only take in a certain amount of power at any given moment of time. The weakness is always that of the receiver.⁵³ Because of this the infinite power of the cause gets spread out over a time that has neither a beginning nor an end.⁵⁴

Another obvious question seems to be why an infinite power impressed upon a finite body by an incorporeal force should be no problem, whereas an infinite body—were it to exist—would not be able to move another body. For Proclus argues in the *Elements of Physics* that nothing finite can be affected by the infinite (II.12) and nothing infinite can be affected by the infinite (II.13), and uses the first of these premises in his final argument.⁵⁵ He is of course there speaking of physical entities. But what makes incorporeal beings so special that it enables them, despite their infinite power, to affect body? Proclus' earlier argument for prop. II.12 is based on the idea that an infinite power would produce the same effect on a finite body as a finite power would in the same time, which is held to be impossible. This argument essentially repeats that of Aristotle.⁵⁶ It posits a finite (physical) power Δ which is brought in a determinable proportion with a posited infinite power A , in order to show that the assumption of an infinite power leads to absurdities. Unlike Aristotle Proclus specifies that both powers must be

context is to be understood as infinite power: τὸ ἄπειρον τοῦτο, λέγω δὴ τὸ κατὰ δύναμιν ἄπειρον. He probably wants to exclude either the idea of infinite extension or the more likely mistake of understanding ἄπειρον in the sense of unlimitedness, indeterminateness. Why an everlasting power is infinite (inexhaustible) is explained in *Elem. Theol.* 84.

⁵¹ Cf. Sorabji (1988) ch. 15.

⁵² Sorabji (1988) 283.

⁵³ *In Tim.* III 2.123.2–5; 10–13.

⁵⁴ *In Tim.* III 2.266.28–268.6.

⁵⁵ *Elem. Phys.* II.12 (Οὐδὲν πεπερασμένον ὑπὸ ἀπείρου δύναται πάσχειν); II.13 (Οὐδὲν ἄπειρον ὑπὸ ἀπείρου δύναται πάσχειν); II.21 58.22–23 (ἄπειρον μὲν οὖν σῶμα οὐκ ἔστι, καὶ εἰ ἦν, οὐκ ἂν ἠδύνατο κινεῖν τὸ πεπερασμένον, ὥς δέδεικται).

⁵⁶ Arist., *Cael.* I.7 275 a 15–21.

‘of the same form’ (*i.e.*, if Δ is physical, then so must be A).⁵⁷ Without this qualification Proclus would probably not consider the proof valid. The adding of a qualification shows, I believe, that the author knew what he was doing. In other words, he was not mindlessly copying bits of Aristotle. This restriction, which limits the comparison to powers of the same form, leaves open the possibility, needed in prop. II.21, that infinite powers of a completely different nature (*i.e.* powers stemming from incorporeal unmoved movers) affect finite bodies. Yet a new objection can be raised. If, as the Neoplatonists claim, all powers are incorporeal,⁵⁸ the solution suggested above would not work: the infinite and the finite power would not be essentially different and hence must be comparable. To this one could reply that the power emanating from an unmoved mover could still be sufficiently different from the power exerted by a minuscule natural reason principle (*logos*). Unsatisfactory as this may seem within an Aristotelian context, Proclus does see a difference between powers interacting on one hypostatic level (so-called horizontal causation)⁵⁹ and powers that stem from much higher up. If one wished to take into account Proclus’ metaphysics, the argument for prop. II.12 should at least be reformulated. That, however, would not be in keeping with the nature of the *Elements of Physics*; after all, what Proclus does here is to present the *Aristotelian* theory of motion insofar it is acceptable and can be made useful for Neoplatonic usage.

A last inconsistency is created by the fact that Proclus elsewhere says that finite bodies can house an infinite power, thus directly contradicting *Elem. Phys.* II.8.⁶⁰ Prop. 96 of the *Elements of Theology* indeed states: ‘If the power of any finite body be infinite, it is incorporeal’ (trans. E. R. Dodds; Παντὸς πεπερασμένου σώματος ἡ δύναμις, ἄπειρος οὐσα,

⁵⁷ *Elem. Phys.* II.12 58.13–14: εἰλήφθω πεπερασμένη δύναμις ἡ Δ καὶ ἔστω ὁμοειδὴς τῇ A . Aristotle appeals to a similar idea (cf. *GC* I.6 323 a 30), albeit in a different context.

⁵⁸ See, e.g., *Theol. Plat.* III.6 21.1–2: Ἡ γὰρ ἄπειρος δύναμις ἀσώματος ἐστίν, ἐπεὶ καὶ πᾶσα δύναμις.

⁵⁹ See Linguisti (2007) 211 on horizontal causation: ‘...i fenomeni di causazione “orizzontale”, ossia le interazioni di entità poste sullo stesso piano. Per le caratteristiche appena ricordate del corporeo, nel caso delle interazioni di tipo fisico non può essere certo il corpo A la vera causa, poniamo, del movimento del corpo B : nessun corpo infatti propriamente agisce, e quindi solo apparentemente i corpi interagiscono. La ragion d’essere di tale interazione deve risiedere pertanto in cause di ordine superiore, incorporee.’

⁶⁰ Cf. n. 38.

ἄσώματός ἐστιν). Yet the discrepancy may not be serious, as E. R. Dodds⁶¹ and C. Steel⁶² have pointed out. The infinite power should be seen not as belonging to corporeal being, but as stemming from higher causes and merely residing in the body.⁶³ It is not present in its totality, but only for as much as the finite body is able to take in at a time.

At the end of our discussion of the *Elements of Physics* we should ask why a Platonist would turn to Aristotle's *Physics* for an account of motion. One should know that Proclus firmly believes that even this subject is treated better in the *Timaeus*. He holds Plato's dialogue to be superior in many, if not all respects. As Proclus understands it, its primary focus is the physical world as being produced by the gods.⁶⁴ It thus deals with the true causes of the world, and not just with the material auxiliary causes, and it does so in a much more systematic and comprehensive way. Aristotle, so Proclus believes, wrote his *Physics* in a spirit of rivalry, but has failed to meet the standards set by Plato.⁶⁵ Proclus even claims that there is nothing of importance in Aristotle's *Physics* that had not been treated with more accuracy in the *Timaeus*.⁶⁶ Even so Proclus found it worth his while to summarise some of the principal arguments of *Physics*. At *In Tim.* I 1.6.24–26, he seems to admit that Aristotle offers a useful treatment of matter and form, the efficient causes of motion, motion itself, time and place, but then retracts and adds the remark that the auxiliary causes of motion had already been appropriately dealt with and put in the right metaphysical perspective in Plato's *Timaeus*. Nonetheless it is hard to deny, and Proclus will not have failed to notice, that Aristotle gives a fuller account of kinematics than Plato does. By writing up the *Elements of Physics* Proclus implicitly acknowledges the significance of the *Physics*.⁶⁷ Yet we have also seen

⁶¹ Dodds (1963) 250.

⁶² Steel (1987c) 220–221. Steel refers to Westerink (1976) 170–171.

⁶³ Cf. *Elem. Theol.* 80 76.4–7: ἐπεὶ καὶ πᾶν τὸ ποιοῦν δύναμιν ἔχει ποιητικὴν· ἄποιον δὲ καὶ ἀδύναμον τὸ σῶμα καθ' αὐτό· ὥστε οὐ καθὼ σῶμα ποιήσει, ἀλλὰ κατὰ τὴν τοῦ ποιεῖν ἐν αὐτῷ δύναμιν· μεθέξει ἄρα δυνάμεως ποιεῖ, ὅταν ποιῇ. *Theol. Plat.* I.14 61.23–62.1. For the origins of the debate on incorporeal qualities see Kupreeva (2003).

⁶⁴ *In Tim.* II 1.217.18–27.

⁶⁵ Cf. n. 16 and Steel (2003).

⁶⁶ One could refer to the opening words of the *Timaeus Commentary* and the remarks at I 1.6.21–24 and I 1.7.6–16. Cf. Steel (2003) 176–177.

⁶⁷ Cf. Rashed (1997) 182 (regarding motion): 'The purely *physical* theory was always considered, even by convinced Platonists, to be satisfactory and one of the most important theorems of physical science.'

that, even though the work is written in an Aristotelian spirit, the presence of Neoplatonic metaphysics is detectable, especially in those places where it supplies the hidden premise needed to make the argument coherent or where an argument meant to establish the physical impossibility of an infinite force is insulated so that it does not apply to non-physical forces.

III. Elements of Theology 14–24: *self-movers and unmoved movers*

Aristotle's argument from motion, which is to show the necessity of an unmoved mover, is taken up in Proclus' other works—most notably in the *Elements of Theology*, the *Platonic Theology*, the *Commentaries* on the *Timaeus* and the *Parmenides*. In Proclus' view, Aristotle's argument, though more limited in scope, confirms what Plato says in the *Timaeus* about the necessity of a productive cause for the universe. Compared to Aristotle Proclus grants a more prominent role to self-movers. He inserts them as an intermediate level between unmoved movers and extrinsically moved movers. This first step in the direction of the more complex hierarchies of movers as they are presented in other works is set out in propositions 14 to 24 of the *Elements of Theology*.

The *Elements of Theology* share the deductive method of the *Elements of Physics*. As a consequence, if we are to judge the work by its own standards we should accept no premises that have not been explicitly stated. Premises should result either from a definition or from an argument. In order to test the validity of the argument we cannot appeal to other things we may know from Plato, Aristotle, or Proclus. In the *Elements of Theology* Proclus develops an argument from motion that is designed to offer *independent* evidence for the difference between soul and intellect. Once it is established that moved movers are preceded by self-movers that are in turn preceded by unmoved movers, Proclus will identify the latter two with souls and intellects respectively (prop. 20). This means that before we have reached the conclusion of the first argument we are not supposed to know the difference between intellects and souls.

In *Elem. Theol.* 14–24 Proclus combines Aristotle's argument from the *Physics* with the Platonic argument in favour of self-movers, for which the key texts are *Phaedr.* 245 bc and *Leg.* X 894 b–895 b (in both texts the self-movers are identified as souls). This leads to the following hierarchy: (1) unmoved movers, (2) self-movers (*i.e.* self-moved

things),⁶⁸ (3) things moved from without (the extrinsically moved). The threefold classification of movers is established in prop. 14: all that exists is either moved or unmoved; and if moved it is either moved by itself or by something else.⁶⁹ This results in the threefold classification of all things. But of course the classification at this point remains purely hypothetical. It still needs to be demonstrated that none of the three classes is empty. This is what Proclus endeavours to do in the explanation of prop. 14.

The proof for the existence of an unmoved mover (one at least, but possibly more than one) is short and neat, yet somewhat elliptic.

Argument UM:

If everything that is extrinsically moved⁷⁰ is moved by something that is itself extrinsically moved, there is either a circularity of causation or an infinite regress. But neither of these is possible. [Hence any motion must either be ultimately caused by some motion that is not itself caused by a moved mover, or directly caused by a mover that is not moved extrinsically.]⁷¹ Hence there must be an unmoved mover. The rejection of circularity and of an infinite regress is supported by premises that have been established previously: an infinite regress is excluded by the fact that ‘the sum of existence is limited by a first principle’ (prop. 11); circularity is excluded by the premise that the mover is superior to the moved (prop. 7: things would be both inferior and superior to themselves if causation of motion took the form of a circle).⁷²

Surely everything depends on the acceptance of these auxiliary principles, which are problematic from a modern perspective. But once these principles granted, Proclus’ proof looks fairly convincing. Strictly speaking, however, he did not prove the necessity of an unmoved mover,

⁶⁸ Proclus uses τὸ αὐτοκίνητον (self-moved) but also τὸ αὐτὸ ἐαυτὸ κινούν (self-mover). As far as the argument is concerned these terms are interchangeable. The difference is one of emphasis: either one stresses the idea that souls are (the first things) moved, or that they are movers.

⁶⁹ *Elem. Theol.* 14 16.9–12: Πᾶν τὸ ὄν ἢ ἀκίνητόν ἐστιν ἢ κινούμενον· καὶ εἰ κινούμενον, ἢ ὑφ’ ἐαυτοῦ ἢ ὑπ’ ἄλλου· καὶ εἰ μὲν ὑφ’ ἐαυτοῦ, αὐτοκίνητόν ἐστιν· εἰ δὲ ὑπ’ ἄλλου, ἑτεροκίνητον. πᾶν ἄρα ἢ ἀκίνητόν ἐστιν ἢ αὐτοκίνητον ἢ ἑτεροκίνητον.

⁷⁰ The existence of things moved by other things is accepted without further ado: *Elem. Theol.* 14 16.13.

⁷¹ It would be nice if I could write ‘or directly caused by an unmoved mover’, but all the argument actually warrants is a mover that is not an extrinsically moved mover. This could in principle be a self-mover, too.

⁷² *Elem. Theol.* 14 16.15–19: εἰ γὰρ πᾶν τὸ ἑτεροκίνητον ὑπ’ ἄλλου κινουμένου κινεῖται, ἢ κύκλῳ αἰ κινήσεις ἢ ἐπ’ ἄπειρον· ἀλλ’ οὔτε κύκλῳ οὔτε ἐπ’ ἄπειρον, εἴπερ ὥρισται τῇ ἀρχῇ τὰ ὄντα πάντα καὶ τὸ κινούν τοῦ κινουμένου κρεῖττον. ἔσται τι ἄρα ἀκίνητον πρῶτον κινούν.

but merely that of a mover that is not moved by something external.⁷³ So in principle, a self-mover would do, if this is indeed a coherent concept. Given this small qualification this version of the proof for an unmoved mover in prop. 14 is much more solid than that of the *Elements of Physics*.

The argument for the self-moved is equally short. It starts from the assumption of all things being at rest.⁷⁴

Argument SM:

For imagine all things to be at rest: what will be the first thing set in motion? Not the unmoved, by the law of its nature. And not the extrinsically moved, since its motion is communicated from without. It remains, then, that the first thing set in motion is the self-moved, which is in fact the link between the unmoved and the things which are moved extrinsically. At once mover and moved, the self-moved is a kind of mean term between the unmoved mover and that which is merely moved.⁷⁵

If all things are at rest, there is of course nothing which can communicate its own motion to any other thing. In itself nothing would prevent the first thing moved from being extrinsically moved—directly moved by an unmoved mover, that is. Proclus therefore appeals to what one could call the law of intermediaries: between that which is merely moving (in the active sense) and that which is merely moved, there must be something which is both moved and moving.

In and of itself the proof for the self-moved is incomplete, just as is the proof for an unmoved mover: the latter only manages to demonstrate the necessity of a mover that is not extrinsically moved (and which could be either an unmoved mover or a self-moved), whereas the former only establishes that there must be something that is moved

⁷³ As in Arist., *Phys.* VIII.5 257 a 25–26: οὐκ ἄρα ἀνάγκη αἰεὶ κινεῖσθαι τὸ κινούμενον ὑπ’ ἄλλου, καὶ τούτου κινουμένου. Cf. Manuwald (1989) 32–34. See also *Phys.* VIII.5 257 b 23–25.

⁷⁴ The idea stems from *Leg.* X 875 a 6–b 1, where it is used in an argument for self-motion as the first cause of motion (see also *Phaedr.* 245 d 8–e 2). Proclus explicitly quotes this passage in *Theol. Plat.* I.14 61.9–15 (discussed below, section IV). Proclus as a matter of fact does not need the hypothesis of an actual stand-still: what matters is not a chronological beginning of motion, but a first member in the order of causes.

⁷⁵ *Elem. Theol.* 14 16.20–26: ἀλλ’ εἰ ταῦτα, ἀνάγκη καὶ τὸ αὐτοκίνητον εἶναι. εἰ γὰρ σταίη τὰ πάντα, τί ποτε ἔσται τὸ πρῶτως κινούμενον; οὔτε γὰρ τὸ ἀκίνητον (οὐ γὰρ πέφυκεν) οὔτε τὸ ἑτεροκίνητον (ὑπ’ ἄλλου γὰρ κινεῖται)· λείπεται ἄρα τὸ αὐτοκίνητον εἶναι τὸ πρῶτως κινούμενον· ἐπεὶ καὶ τοῦτο ἐστὶ τὸ τῷ ἀκινήτῳ τὰ ἑτεροκίνητα συνάπτον, μέσον πῶς ὄν, κινούν τὸν ἅμα καὶ κινούμενον· ἐκείνων γὰρ τὸ μὲν κινεῖ μόνον, τὸ δὲ κινεῖται μόνον. Compare *Theol. Plat.* I.14 61.9–15.

first (which could be something which has merely passive motion, without therefore being a self-mover). Even the appeal to the law of intermediaries would not do: for first Proclus would have needed to show conclusively that unmoved movers exist, and in order to do so he would need to show that there are no true self-moved things, *i.e.* that self-movers cannot mark the absolute beginning of a causal series (this is what Proclus actually believes, and in this respect his position is quite close to Aristotle's: cf. *infra*, pp. 207–208). If self-movers in an absolute sense existed, there would be no need for unmoved movers at all. The threefold classification actually rests on broader metaphysical assumptions. Proclus may have perfectly acceptable reasons—both exegetic and systematic—to support his metaphysical hierarchy. But alas, to refer to them here would be to give up the idea of a deductively constructed *elementatio*.

In prop. 14 Proclus thus uses Aristotle's argument—but leaving out the rejection of self-motion—as if it demonstrated the necessity of the unmoved, and the argument from the *Laws*, *i.e.* the thought experiment of a complete stand still and the ensuing beginning of motion, as if it demonstrated the necessity of the self-moved *in addition to* the unmoved movers. But of course the arguments cannot be used this way. One could of course think of ways to connect the arguments. The missing link could be provided by the idea that we need souls who move and are moved by their desire. However, that idea is not itself part of the argumentation. Moreover it generates problems of its own. For instance, we would then need to explain how there can be two types of efficient causes of motion, when in fact one would do.

In prop. 20 Proclus identifies the classes of movers with entities on the Neoplatonic scale of being: bodies are extrinsically moved, souls are self-moved and intellect is the unmoved cause of motion. Left to themselves bodies are without motion; only through participation in soul are they moved. Ensouled bodies can therefore be considered to be self-moved in a derived sense.⁷⁶ Self-moved things in a primary sense are souls. They are preceded by the unmoved, which even in its activity

⁷⁶ *Elem. Theol.* 20 22.6–8 Dodds. Simp., *In Phys.* 1248.3–8. See also Plato, *Phaedr.* 245 c 5–6.

is without motion.⁷⁷ Intellect is such an unmoved in an absolute sense:⁷⁸ it is active, yet its activity does not imply any kind of change.⁷⁹

Proclus does not seem to think the inclusion of the self-moved is ruled out by Aristotle's arguments in *Physics* VIII.5.⁸⁰ Yet the insertion of the self-moved into Aristotle's proof of the existence of an unmoved mover is less than felicitous as far as the cogency of the argumentation is concerned. For one thing it is not clear why an unmoved mover, understood as an efficient cause, could not directly move things that would not be self-movers but merely extrinsically moved. In the background lurks the simpler model of an unmoved mover that moves as a mere final cause, desired by self-movers that are the first efficient causes of motion. Yet Proclus wants the unmoved mover to be itself an efficient cause. But if that is the case, *i.e.* if the unmoved mover is the first efficient cause of motion, why would we consider souls to be self-movers at all: are not they, too, extrinsically moved by intellect? This is a conclusion Proclus wants to avoid: souls need to be autonomous agents and the source of their own actions. They need to be *relatively* independent, *i.e.* insofar as they are movers of themselves and of other things. Nonetheless they ultimately depend on higher principles which are unmoved.

Proclus' position with respect to self-movers is actually much closer to Aristotle's than it would appear to be at first sight. For Proclus, too, self-movers are not self-movers in an absolute sense.⁸¹ Souls do not constitute the first efficient cause of motion.⁸² Rather self-motion finds its ulterior explanation in unmoved motion. Proclus even accepts Aristotle's idea

⁷⁷ Proclus' wording ('*even in its activity*') suggests that in a sense souls are unmoved, too. This is indeed his view: souls are unmoved in their essence, yet moved at the level of activity. Cf. n. 84.

⁷⁸ This is only true insofar motion is restricted to physical motion. Spiritual motion is a different matter: cf. *infra*, section VI.

⁷⁹ *Elem. Theol.* 20 22.13–18 Dodds: εἰ οὖν ἡ ψυχὴ κινουμένη ὑφ' ἑαυτῆς τὰ ἄλλα κινεῖ, δεῖ πρὸ αὐτῆς εἶναι τὸ ἀκινήτως κινεῖν. νοῦς δὲ κινεῖ ἀκίνητος ὧν καὶ αἰεὶ κατὰ τὰ αὐτὰ ἐνεργῶν. The words αἰεὶ κατὰ τὰ αὐτὰ happen to be part of the formula τῆς ἀμερίστου καὶ αἰεὶ κατὰ ταὐτὰ ἐχούσης οὐσίας (*Tim.* 35 a 1–2), which according to Proclus indeed refers to intellect. Another essential characteristic of intellect, its indivisibility (cf. prop. 171), is expressed in the same formula. See section IV for Proclus' use of *Tim.* 35 a in this context.

⁸⁰ Compare Simp., *In Phys.* 1247.27–1248.10.

⁸¹ Cf. n. 8.

⁸² *In Eucl.* 32.7–13: '[H]e sometimes allows that the soul...is a source of motion and sometimes that it receives its motion from intelligible things. These statements are in full accord with each other; for the soul is a cause of motion in things that receive their motion from outside themselves, but not therefore the cause of all motion.'

that there must be an unmoved mover internal to a self-mover.⁸³ Not only is it his view that soul is able to discover intellect within itself, but he also claims that soul has its being outside of time—and hence free of physical motion—and unfolds merely its activity in time.⁸⁴

A crucial element of Aristotle's argument against self-motion cannot meet with Proclus' approval. Aristotle claims that self-motion presupposes that one *part* of a thing acts on another part of a thing. In his zeal to refute Plato Aristotle here makes the error of conceiving the activity of soul as if it were a material being with corporeal extension. In prop. 15, Proclus argues that immateriality and indivisibility are conditions of self-action, of which self-motion (in the sense of locomotion) is one type. He shows that it is indeed impossible for a body and in general for any divisible substance to 'revert upon itself.'⁸⁵ This argument shows that he has understood the full force of Aristotle's argument and accepts it, but only for physical substances. It also shows that the Aristotelian analysis of the infinitely divisible continuum has as its counterpart the indivisibility of the spiritual.⁸⁶ New problems loom large, however: soul needs to be indivisible insofar as it reverts upon itself, yet in order for it to be moved it would need extension and hence divisibility. The solution, I suppose, would refer to the doctrine that locates the activity of soul in time and space.⁸⁷ Now the problem seems to be that the essence of soul—as opposed to its powers and activities—is an unmoved mover. Not just intellect, then, but already the essence of soul would turn out to be an unmoved mover (see also below, pp. 213–214). Be that as it may, the soul constitutes an essential unity and as such it is self-moved.

Indivisibility precludes motion. To be more precise: it is incompatible with passive physical motion. Hence Proclus often associates indivisibility with being unmoved, for instance when he defines the essence of intellect as indivisible.⁸⁸ But not only that: indivisibility is also linked with the active *power* to move (to cause motion, that is). Hence both

⁸³ Cf. n. 4.

⁸⁴ *Elem. Theol.* 190–191; *In Tim.* III 2.128.18–19; Kutash (2003) 214; Steel (1978) 69–70. See also n. 77.

⁸⁵ *Elem. Theol.* 15. Cf. Steel (2006) 241–243.

⁸⁶ This supplies a crucial premise that was missing or remained implicit in the *Elements of Physics*. Cf. *supra*, p. 196.

⁸⁷ See *Elem. Theol.* 191, with the supporting argument; *Elem. Theol.* 197.

⁸⁸ *Elem. Theol.* 171 150.1–3.

aspects of unmoved movers—their being unmoved as well as their being movers—are tied up with indivisibility. Divisibility, on the other hand, is linked with passibility. This can be seen very clearly in prop. 80, the famous thesis that only incorporeals are causative. Body is infinitely divisible, so Proclus argues, and being divided is a form of being acted upon. The incorporeal, on the contrary, is simple and undivided and can therefore not be acted upon. For that which is without parts cannot be divided and that which is not composite is not subject to change.⁸⁹ Body is only capable of being divided, and can therefore not be an agent. If there are agents at all, they must be incorporeal.⁹⁰ If a body is seen to act, it is by virtue of what is incorporeal in it (*i.e.* by a soul or by an incorporeal quality, such as warmth). In other words: a body can participate in the incorporeal and thus act, just like the incorporeal can be acted upon through its association with body.⁹¹

IV. *More elaborate hierarchies of motion and divisibility*

Had Proclus been satisfied with a simple dichotomy between indivisible movers and divisible extrinsically moved things, matters would not have been difficult to understand at all. The inclusion of the Platonic self-moved things as intermediaries, however, requires that the soul be defined in respect of the distinction divisible-indivisible. Proclus looks for the solution in *Tim.* 35 a, where soul is described as a mixture of indivisible and divisible being. He understands this mixture as a proportion and explains that the divisible aspect of soul is superior to the divisibility of body but also to the ‘being which becomes divisible in the realm of bodies’. According to the principles of Proclus’ metaphysics, ontological levels are produced by the levels preceding them. Translated into terms of motion and divisibility this means that indivisible,

⁸⁹ *Elem. Theol.* 80 74.31–76.1: τὸ μὲν γὰρ σῶμα, ἢ σῶμα, διαιρετὸν ἐστὶ μόνον, καὶ ταύτῃ παθητόν, πάντα ὃν μεριστόν, καὶ πάντα εἰς ἄπειρον. τὸ δὲ ἀσώματον, ἀπλοῦν ὄν, ἀπαθὲς ἐστίν· οὔτε γὰρ διαιρεῖσθαι δύναται τὸ ἀμερές οὔτε ἀλλοιοῦσθαι τὸ μὴ σύνθετον.

⁹⁰ *Elem. Theol.* 80 76.1–3: ἢ οὐκ οὐδὲν ἔσται ποιητικὸν ἢ τὸ ἀσώματον, εἴπερ τὸ σῶμα, καθὸ σῶμα, οὐ ποιεῖ, πρὸς τὸ διαιρεῖσθαι μόνον καὶ πάσχειν ἐκκείμενον. Indivisibility and power are also linked in *Elem. Theol.* 61 and 86 78.28–29.

⁹¹ This whole reasoning also features in the passage discussed in the next section, esp. *Theol. Plat.* I.14 61.23–62.1.

unextended, and unmoved being produces divisible, extended, and passively moved being.⁹² Alternatively, every product can be described as an image of its cause.⁹³

The basic three-part classification of motion in the *Elements of Theology* gets further developed and refined in other works. In *Theol. Plat.* I.14 60.11–63.20 the hierarchy of motion comprises the following levels:

(1)	unmoved movers	intellects
(2)	the self-moved in a primary sense	souls
(2b)	the self-moved in a secondary sense	ensouled bodies, <i>i.e.</i> living beings
(3)	things moved from without, moving other things	‘that which becomes divisible around bodies’: enmattered forms, qualities
(4)	things moved from without, not moving anything else	bodies

Of these items only those belonging to level (3), that of the extrinsically moved movers, remain to be explained.⁹⁴ The formula ‘that which becomes divisible around bodies’ is taken from *Tim.* 35 a 2–3 (τῆς περὶ τὰ σώματα γιγνομένης μεριστῆς), where the soul is said to be constituted in the middle between this, on the one hand, and ‘the indivisible and changeless nature’, which Proclus takes to be intellect, on the other.

‘The nature that becomes divisible around bodies’ is not infinitely divisible like body is,⁹⁵ but is ‘more divisible’ than soul. It is said to exist ‘stretched out...according to the unlimitedness of time’.⁹⁶ Although Plato describes the composition of the soul as a mixing process with, as its ingredients, the indivisible nature and the nature that becomes divisible, Proclus refuses to regard the soul literally as a mixture out of these substances. Instead he prefers to understand the ‘mixture’ as

⁹² *In Parm.* I 706.1–3.

⁹³ The *extension* of time (see, however, n. 128) is an image of eternity: *In Tim.* I 1.6.27–28; *Tim.* 37 d 5–7.

⁹⁴ The four stages are also mentioned at *In Tim.* III 2.151.24–27.

⁹⁵ *In Tim.* III 2.152.11–12. This almost certainly amounts to a denial of incommensurability at this level. See the next section. Both Simplicius and Philoponus have argued that there are minimal lengths for forms. See Sorabji (2004) 190–191.

⁹⁶ *In Tim.* III 2.147.30–31: ἡ κατὰ τὴν ἀπειρίαν τὴν χρονικὴν ἐν παρατάσει τὴν ὑπόστασιν ἔχουσα. Also III 2.140.28–30.

a proportional relation between the soul and divisible and indivisible being. He explains that it makes no sense to speak of a mixture between the extended and the unextended, between body and indivisible, just like as there is no mixture possible between the line and the point.⁹⁷ Therefore Proclus rejects the view of Severus who held that geometric extension belongs to the being of soul.⁹⁸ As we will see below in more detail, Proclus believes that merely the *activities* of the soul are extended, not its essence. Proclus does not equate the ‘divisible being’ of *Tim.* 35 a 2–3 with bodies. For bodies are intrinsically divisible, whereas this nature is said to *become* divisible in the vicinity of bodies. This is for Proclus reason enough to claim that out of itself this nature is not divisible, at least not the way body is. Only through its association with body does this nature get divisible. Unlike the soul, this divisible nature is not separable from body, which is why the soul is superior to it.⁹⁹

In the present passage Proclus mentions only (incorporeal) qualities and the enmattered forms as exemplifying ‘that which becomes divisible’.¹⁰⁰ He distinguishes qualities from enmattered forms, without however clarifying the distinction.¹⁰¹ In other works, particularly in the *Timaeus Commentary*, he equates ‘that which becomes divisible around bodies’ with the hypostasis Nature, which is intermediate between soul, on the one hand, and bodies, physical powers and enmattered forms, on the other.¹⁰² Further entities which are usually counted among ‘that

⁹⁷ Proclus, following Aristotle, does not consider a line as consisting of points. Since the line is divisible and continuous, and the point is indivisible, there is an significant ontological difference between the two. See the next section.

⁹⁸ *In Tim.* III 2.152.24–30: οὐκ ἄρα ἀνεξόμεθα λέγειν ἡμεῖς οὕτω μέσσην αὐτήν, ὡς ἔχουσάν τι καὶ ἀσώματον καὶ σωματικόν, ὡς Ἐρατοσθένης ὑπέλαβεν, ἢ διάστημα γεωμετρικὸν ἐπὶ τὴν οὐσίαν αὐτῆς ἀναφέρειν, ὡς Σευῆρος· κρᾶσις γὰρ οὐκ ἂν ποτε γένοιτο ἀδιαστάτου καὶ διαστατοῦ καὶ ἀμερίστου καὶ σώματος· οὐδὲ γὰρ σημείου καὶ γραμμῆς. Already Aristotle criticised the view, which he ascribes to Plato, that the soul is essentially a magnitude: *De An.* I.3 407 a 2–15.

⁹⁹ *In Tim.* III 2.148.25–149.3; III 2.152.9–20. Even soul’s divisible aspect is superior to ‘that which becomes indivisible around bodies’: III 2.149.10–11.

¹⁰⁰ In essence this interpretation of *Tim.* 35 a 2–3 can already be found in Plot. IV.2 [4] 1.29–41.

¹⁰¹ The distinction is explained in other works. Cf. Helmig (2006) 266–273.

¹⁰² Cf. *In Tim.* I 1.10.13–22: ὁ δὲ γε Πλάτων ὕλην μὲν ἢ τὸ ἔνυλον εἶδος ἢ τὸ σῶμα ἢ τὰς δυνάμεις τὰς φυσικὰς οὐκ ἀξιοῖ πρῶτως ἐπονομάζεσθαι φύσιν, ψυχὴν δὲ αὐτὴν αὐτόθεν ὀκνεῖ προσαγορεύειν, ἐν μέσῳ δὲ ἀμφοῖν τὴν οὐσίαν αὐτῆς θέμενος, ψυχῆς λέγω καὶ τῶν σωματικῶν δυνάμεων, ὑφειμένην μὲν ἐκείνης τῷ μερίζεσθαι περὶ τὰ σώματα καὶ τῷ μὴ ἐπιστρέφειν εἰς αὐτήν, ὑπερέχουσας δὲ τῶν μετ’ αὐτὴν τῷ λόγους ἔχειν τῶν πάντων καὶ γεννᾶν πάντα καὶ ζῳοποιεῖν, τὴν ἀκριβεστάτην περὶ αὐτῆς θεωρίαν ἡμῖν παραδέδωκε. 11.2–4: τοῦτο μὲν δῆλον ὅτι τὸ αἰσθητὸν πᾶν, ἐν ᾧ διάστασις καὶ μερισμὸς παντοῖος· ἐκείνων δὲ τὸ μὲν ἢ φύσις ἢ ἀχώριστος τῶν σωμάτων κτλ. 9–12:

which becomes divisible' are vegetative and irrational animal souls.¹⁰³ Although Proclus in *Theol. Plat.* I.14 makes no attempt at differentiating 'the nature that becomes divisible', he has rather precise ideas as to which hierarchical distinctions could be made.¹⁰⁴ These get expounded in the *Timaeus Commentary*. Nature is the principle that emits 'natural reason principles' (φυσικοί λόγοι) and thereby unfolds itself.¹⁰⁵ In bodies these principles are realised as enmattered forms.¹⁰⁶ When they, in turn, unfold themselves they generate qualities. The enmattered form itself is undivided (ἀμερές) and is of an essential nature (οὐσιώδης).¹⁰⁷ By unfolding itself it becomes extended (ἐκταθέν) and takes on spatial dimensions (ὄγκωθέν). This amounts to its emitting enmattered powers (ἐνύλους δυνάμεις), which are 'some kind of qualities' (ποιότητάς τινας οὔσας), more precisely essential qualities.¹⁰⁸ The presence of the 'enmattered form' in the body is to be understood as that of something undivided in something divided.¹⁰⁹ This form takes on extension and thus becomes, *i.e.* generates, the essential qualities. These are not identical with the essence (the οὐσία, in this case the enmattered form), but are its powers (δυνάμεις). One single essence, which is undivided and unextended, generates a plurality of powers, which are extended. The essential qualities, in their turn, which are powers, generate activities (ἐνέργειαι).¹¹⁰ These can be understood as the bodily effects caused by the qualities;¹¹¹ they are even more numerous and divided. These finer

ἡ τοίνυν φύσις ἐσχάτη μὲν ἐστι τῶν τὸ σωματοειδὲς τοῦτο καὶ αἰσθητὸν δημιουργούντων αἰτίων καὶ τὸ πέρας τοῦ τῶν ἀσωμάτων οὐσιῶν πλάτους. Cf. Porph., *Sent.* 5.

¹⁰³ In *Tim.* III 2.139.17–30; Opsomer (2006b) 153–154.

¹⁰⁴ For a more extensive account see Helmig (2006).

¹⁰⁵ In *Tim.* III 2.10.19–21.

¹⁰⁶ In combination with souls they are realised as the forces of desire and cognition which constitute vegetative and irrational souls. I surmise that these forces can be seen either as stemming from the same *logoi* of nature as do the enmattered forms, or as flowing directly from nature along with the natural *logoi* (this is more of a terminological matter: in the second case powers of desire and cognition would just not count as physical *logoi*; cf. In *Tim.* I 1.10.19–21). In any case, the irrational powers of desire and cognition are ranked higher than the forms of lifeless bodies.

¹⁰⁷ In *Tim.* III 2.25.6–7.

¹⁰⁸ In *Tim.* III 2.25.7–8; 15. The ὄγκοι (cf. *Tim.* 31 c–32 a) are interpreted as referring to extension and three-dimensionality in the realm of matter; the powers are equated with the qualities that impart form to bodies and hold them together (In *Tim.* III 2.25.3–5). Thereby these qualities are distinguished from mere accidents.

¹⁰⁹ In *Tim.* III 2.25.11. Cf. Helmig (2006) 270 n. 50.

¹¹⁰ In *Tim.* III 2.25.9–23.

¹¹¹ Only at the end of the chain do properties become visible. That will not be at the level of the enmattered form, and probably not even at the level of the latter's powers, but at the level of the 'activities'. Cf. In *Parm.* III 796.7–8.

distinctions are not present in *Theol. Plat.* I.14, since they can not be derived from a classification of types of motion.

Let us take another look at the more basic hierarchy of movers and moved. Everything which belongs to ‘that which becomes divisible around bodies’ is coextended (συνδυστάμενα) with body.¹¹² Yet because of their incorporeal character these things are still forces and causes of motion.¹¹³ In this respect they differ from the bodies themselves, which are not able to impart motion. What we would describe as body A hitting body B and thereby dislodging B is conceptualised in a different way by Neoplatonists. Responsible for the motion of B is not A, but the incorporeal qualities of A.¹¹⁴

The hierarchy elaborated in *Theol. Plat.* I.14 can be seen as the result of a transmission of motive power. Proclus distinguishes, with Aristotle, an active and a passive kinetic *dynamis* and explains how the latter, too, *i.e.* the capacity to be moved,¹¹⁵ originates at a specific level. It is transmitted from level (2) down to level (4), whereas the active power originates in (1) and extends down to (3).¹¹⁶ Self-movers, *i.e.* the self-moved, are indispensable for the system, as they constitute the origin of passive motion.¹¹⁷ Without self-moved things, which revert upon their cause, nothing would be in motion. The higher causes would still be in place, but nothing would be moved by them as there would be nothing with that capacity. Although Proclus here states that souls are the first things to be moved, even in respect of passive motion souls have an intermediate status, as he makes plain in the *Parmenides Commentary*: above the souls are situated those things (intellects) which are unmoved both in essence and in their activities; souls are unmoved in essence and moved in their activities; they are followed by physical things,

¹¹² Cf. *In Tim.* III 2.152.10–11: συνδιηρημένη τοῖς ὑποκειμένοις.

¹¹³ *Theol. Plat.* I.14 62.1–12.

¹¹⁴ Cf. *Elem. Theol.* 80 (cf. *supra*, p. 209); *In Parm.* III 785.9–10. Plot., IV.7 [2] 8¹.4–6; 11–12.

¹¹⁵ Cf. Arist., *Phys.* VIII.4 255 b 30–31; Sorabji (1988) 220.

¹¹⁶ Although Proclus here claims that nature is an extrinsically moved mover, he ascribes some kind of self-motion to nature: *In Tim.* I 1.12.20–25: ἡ δὲ φύσις προελθοῦσα μόνον. διὸ καὶ ὄργανον λέγεται τῶν θεῶν, οὐκ ἄζων οὐδὲ ἀλλοκίνητον μόνον, ἀλλ’ ἔχουσα πῶς τὸ αὐτοκίνητον τῷ ἄφ’ ἑαυτῆς ἐνεργεῖν· τὰ γὰρ ὄργανα τῶν θεῶν ἐν λόγους δραστηρίους οὐσίωται καὶ ζωτικά ἐστι καὶ σύνδρομα ταῖς ἐνεργείαις αὐτῶν.

¹¹⁷ *Theol. Plat.* I.14 61.15–17 (καὶ γὰρ τοῖς ἑτεροκίνητοις τὸ τοιοῦτον [*sc.* τὸ αὐτοκίνητον] ἐνδίδωσι τὴν τοῦ κινεῖσθαι δύναμιν, ὥσπερ ἅπανι τοῖς οὖσι τὸ ἀκίνητον τὴν τοῦ κινεῖν); 62.21–22. Cf. *Elem. Theol.* 14 16.28–29 Dodds: Self-movers are the first in the order of the moved, unmoved movers occupy the first rank in the order of the causes of motion.

which are moved both in essence and in their activities.¹¹⁸ Proclus also determines with greater precision the nature of the passive motion characterising the soul. It does not seem to be, as one would perhaps expect, topical motion, but rather its thinking activity.¹¹⁹ As we will see below (p. 226), even this claim needs to be qualified, as thinking activity can in some sense be regarded as topical motion. But even so: thinking is not a motion through *physical* space, which is exactly what Proclus wants to deny here.

V. *Mathematical being, degrees of divisibility, magnitude without extension*

The distinction between the sensible and the spiritual realm coincides with that between divisibility and indivisibility. The bodily is characterised by infinite divisibility and mathematically continuous extension, whereas the spiritual is undivided and unextended and in principle non-continuous but discrete; it constitutes a multitude, not a magnitude. This has important consequences for geometry, *i.e.* for the nature of geometric objects and the way in which they are present in the soul. Proclus emphasises the intermediary nature of both the soul and mathematical objects¹²⁰ with respect to divisibility and indivisibility. This view, which entails that some things are halfway between divisibility and indivisibility, may seem strange, for would one not expect that any thing would be either one or the other? What could be in between those alternatives is difficult to fathom. Especially for geometric objects

¹¹⁸ *In Parm.* III 795.25–796.9.

¹¹⁹ *In Tim.* III 2.147.33–148.2: αὕτη γάρ ἐστιν ἀκίνητος μὲν κατ' οὐσίαν, κινουμένη δὲ κατὰ τὰς νοήσεις, καὶ αἰώνιος μὲν κατ' ἐκείνην, ἔγχρονος δὲ κατὰ ταύτας. Simplicius, who tries to harmonise Plato and Aristotle in this respect, claims that Aristotle did not call the soul self-moving because by 'moving' he understood only physical changes; emotions, perceptions and other psychic acts he called 'activities', not motion. This is in perfect agreement with Plato, claims Simplicius, for Plato, too, denied physical motion for the soul (Simp. refers to *Leg.* X 894 c, where self-motion is introduced as a tenth type of motion, *i.e.* as differing from the preceding types—for Proclus' interpretation see below, p. 226), whereas he called the aforementioned activities motion. The more accurate interpreters even limit self-motion to the activity of the rational soul, he says (1248.8; Proclus speaks of νοήσεις, and considers the irrational activities to belong to a lower nature). This interpretation allows Simplicius to claim that the dispute between the two great thinkers turns out to be merely lexical. See Simp., *In Phys.* 1248.21–1249.13. Aristotle's analysis of infinite divisibility and continuity as prerequisites for motion only pertain to physical change: *In Phys.* 1250.14–19. See also 420.1–422.9. For Aristotle's broader use of self-motion, see Gill (1991) 245.

¹²⁰ *E.g.* *In Tim.* I 1.8.13–21; III 2.128.20–22.

the problem seems difficult: they are neither material nor sensible, yet they are supposed to be in some way extended. It also seems that, in order for us to be able to think them, there should be some kind of extension *in* the soul. Yet how is this possible at all given the fact that souls are part of the spiritual realm? Those who are familiar with Proclus' philosophical style and methods will not be surprised to learn that Proclus has thought through this problem and offers a solution. In essence it consists in diffusing the sharp contrast between the two main ontological realms and smoothening the transitions between the various levels of his multilayered ontology. Whether this strategy is successful for the problems at hand remains to be seen.

It is important to point out that there is no such thing as a separate hypostasis for geometric objects.¹²¹ The objects of geometry are not the result of abstraction from sensible objects, but images of higher realities.¹²² They are the soul's way of grasping those higher realities and in that sense products of the soul.¹²³ Hence they have an intermediary status,¹²⁴ like the soul. We have seen that souls are indivisible and unmoved in being, but divisible and moved in their activities. Their activity is temporal, and therefore extended, but their essence is

¹²¹ Rashed (2002) 267: '[I]l n'y a pas de sphère propre aux entités géométriques parce qu'elles ne sont toutes que l'expression dianoétique, c'est-à-dire humaine, de réalités, ou de procès, du monde spirituel. Il serait incongru de supposer l'existence d'un Droit ou d'un Rond dianoétiques, parce que la droite ou le cercle mathématiques ne représentent que pour *notre* faculté dianoétique Procession et Conversion. Dès lors qu'ils sont dans le monde d'en-haut, le droit et le rond s'identifient à ces processus.' Beierwaltes (1965) 167: 'In der Sphäre der Idee aber ist jegliche mathematische Gestalt nicht als solche, wie sie auf Grund sinnlicher Wahrnehmung vorgestellt und gedacht wird, sondern als Negation dieser Gestalt: als gestaltlose Gestalt (σχήμα ἀσχημάτιστον). Der Punkt ist in ihr teillos, der Kreis einfach und ohne Abstand der Peripherie zur Mitte, jede Größe ist größelos.' It should be noted that the indivisibility of the point is not in itself remarkable; what is more surprising is that indivisible points are part of the make-up of the physical world.

¹²² *In Eucl.* 12.6–13.3: in the sensible realm there is nothing which is undivided, nothing that is merely one-dimensional, nothing that is merely two-dimensional, nothing unmoved. Therefore, if we are capable of entertaining the notions of point, line, surface or the unmoved, these must stem from the soul itself. See also 49.12–14, and especially 139.12–142.2; Syr., *In Metaph.* 91.20–92.10; 94.30–97.17. The claim that a merely one-dimensional line cannot be observed anywhere is contradicted by *In Eucl.* 100.14–19: lines without width can be observed in some cases at the separation of lighted and shaded areas, *e.g.* in the shape of the moon.

¹²³ *In Eucl.* 13.22–23. When the soul produces, it draws upon both its own resources and intellectual forms (15.16–16.8). Cf. Cleary (2000) 90–91.

¹²⁴ Cf. Arist., *Metaph.* I.6 987 b 14–18.

not.¹²⁵ The soul is both one and many, both a whole and divided, both continuous and partitioned, so Proclus says in the *Timaeus Commentary*. But then he adds the following important qualification:

We must not imagine (φαντασθῶμεν) its continuity (τὸ συνεχές) in the manner of an extension (διαστατῶς)—indeed, there is also continuity (συνέχεια) that has no magnitude, as the continuity in the case of time.¹²⁶

As we shall see, this agrees with Proclus' theory of the cognitive powers of the soul. When we grasp something as extended, we use our power of imagination (φαντασία, cf. φαντασθῶμεν). Yet the passage suggests that it is possible to think a kind of continuity that is not extended. When we do so, we do not use our imagination, but remain at the level of reason (διάνοια). Moreover, only this way can we get an adequate grasp of the essence of the soul. What does it mean to think continuity without imagining it as extended? The comparison with time probably refers to the arithmetic nature of intellective time.¹²⁷ Indeed, time itself is unextended, transcending that which is *in* time and is extended.¹²⁸ When time is imagined or remembered,¹²⁹ it has already taken the form of extended time spans.¹³⁰

¹²⁵ Cf. n. 84.

¹²⁶ *In Tim.* III 2.166.4–8: νοήσωμεν οὖν μίαν ἅμα καὶ πολλὴν τὴν οὐσίαν τῆς ψυχῆς ὅλην τε μένουσαν καὶ μεριζομένην καὶ συνεχῇ τε ὁμοῦ καὶ διηρημένην, καὶ μήτε τὸ συνεχές αὐτῆς διαστατῶς φαντασθῶμεν—ἔστι γὰρ συνέχεια καὶ ἀμεγέθης, ὥς ἡ κατὰ τὸν χρόνον. Proclus adds a remark about the division of the soul, which should not happen according to monadic numbers, as they are incompatible with continuity (166.8–14): μήτε τὴν διαίρεσιν κατὰ τοὺς μοναδικοὺς ἀριθμοὺς [*sc.* φαντασθῶμεν]· τὸ γὰρ τοιοῦτον ποσὸν ἀσύμβατόν ἐστι πρὸς τὸ συνεχές· ἀλλ' ὥς προσήκει τοῖς ἀσωμάτοις, εἰς ἓν ταῦτα συναγάγωμεν καὶ τὸ ὅλον μετὰ τῶν μερῶν ἐπὶ τῆς ψυχῆς θεωρήσωμεν. δηλοῖ δὲ καὶ ὁ Πλάτων, ὅτι δεῖ μὴ ἀφίστασθαι τῆς ἐνώσεως ἐν τῇ διαίρεσει διὰ τῶν ἐξῆς. Festugière (1967b) 209 n. 3, following a suggestion by Ch. Mugler, explains that Proclus does not just need monadic, but also square and cube numbers. This results in the series used by Plato: 1,2,3,4,9,8,27. These constitute the terms of a twofold *continuous geometrical progression* (1–3–9–27 and 1–2–4–8). This progression may be called geometrical, but is of course essentially arithmetic, *i.e.* discrete.

¹²⁷ Cf. *In Tim.* IV 3.25.8–27.32.

¹²⁸ Similarly, place as an intelligible unit of measurement in the mind is unextended. Cf. *Simp.*, *In Phys.* 634.11–31; Sorabji (2004) 242.

¹²⁹ For the close connection between imagination and memory, see Opsomer (2006b) 142–143, 147.

¹³⁰ It is at this level that one can speak with Augustine of time as a *distentio animi*. See August. *Conf.* XI.26.33. See also Flasch (1993) 382–383 for a critical assessment of the spatial metaphor implied by Augustine's description.

The *Commentary on Euclid* is the best place to look if one wants to understand what Proclus meant by continuity and extension at the level of soul. From the outset Proclus characterises mathematical being as occupying an intermediate position, between the indivisible and the divisible:

Mathematical being... occupies the middle ground between the partless realities—simple, incomposite, and indivisible—and divisible things characterized by every variety of composition and differentiation.¹³¹

Further on the intermediate nature of mathematical being is determined with greater precision:¹³² above it is situated that which is indivisible in an absolute sense (παντελῶς), below it ‘that which becomes divisible around matter’ (τῶν περὶ τὴν ὕλην μεριστῶν γινομένων, *i.e.* the realm below that of the soul proper, on Proclus’ reading of *Tim.* 35 a; cf. section IV). The cognitive faculty corresponding to mathematical being is called reason (διάνοια).¹³³ Objects of mathematical knowledge are superior to sensible objects in that they are devoid of matter, yet inferior to intelligibles in that they are divisible, *i.e.* less unitary and simple.¹³⁴ Being images of higher realities they represent that which is undivided in a divided manner (εἰκόνες... ὄντα καὶ μεριστῶς... τὰ ἀμέριστα ἀπομιμούμενα).¹³⁵ Dianoetic activity is superior to sensation or opinion, since it does not have to draw its objects from the external world. It finds those within itself.¹³⁶

The degree of division characteristic of geometric entities reflects a particular interplay of the principles limit and the unlimited. Mathematical objects are the offspring of these lofty principles, but not of them alone. Also the first products of limit and unlimited, their manifestations in the realm of the intelligible, that is, contribute to how mathematical, and more precisely geometric objects are produced. The resulting magnitudes are infinitely divisible (ἡ τῶν μεγεθῶν διαίρεσις ἐπ’ ἄπειρον χωρεῖ), but every *actual* magnitude that has been

¹³¹ *In Eucl.* 3.1–7: Τὴν μαθηματικὴν οὐσίαν... τὴν μέσσην χώραν ἀπειληφέναι τῶν τε ἀμερίστων καὶ ἀπλῶν καὶ ἀσυνθέτων καὶ ἀδιαίρετων ὑποστάσεων καὶ τῶν μεριστῶν καὶ ἐν συνθέσεσιν παντοίαις καὶ ποικίλαις διαίρεσεσιν ἀφωρισμένων. Also 19.12–13 *et passim*. Translations of passages from *In Eucl.* are by Glenn R. Morrow, with slight modifications.

¹³² *In Eucl.* 5.12–14.

¹³³ *In Eucl.* 4.6–8.

¹³⁴ *In Eucl.* 3.10–14.

¹³⁵ *In Eucl.* 4.20–5.10.

¹³⁶ *In Eucl.* 18.14–17.

divided off is bounded by limits (τὰ δὲ διαιρούμενα πάντα ὥρισται, καὶ κατ' ἐνέργειαν πεπέρασται τὰ μόρια τοῦ ὅλου).¹³⁷ The role of the unlimited is particularly noticeable in the reality of geometric incommensurability (or as we would put it: in the fact that the set of points contained in a geometric line is non-denumerable,¹³⁸ which makes the line continuous).¹³⁹ The role of limit can be observed especially in the boundaries that define shapes.¹⁴⁰ In his explanation of the Pythagorean fourfold division of mathematics—arithmetic, dealing with quantity in itself (τὸ ποσόν); music, dealing with quantities in relation to each other; geometry, dealing with magnitude (τὸ πηλίκον) at rest; spherics, dealing with moving magnitude—Proclus reports that according to the Pythagoreans the pure unlimited (τὸ ἄπειρον, ἀπειρία) falls outside the scope of science.¹⁴¹ Proclus agrees that one should not try to study ‘quantity in sense objects (οὔτε τὸ ποσὸν τὸ ἐν τοῖς αἰσθητοῖς) or magnitude that appears in bodies (οὔτε τὸ πηλίκον τὸ περὶ τὰ σώματα φανταζόμενον).’¹⁴² The unlimited, which, as we have seen, appears in incommensurable magnitudes and numbers, is thus to be excluded from science.¹⁴³

In order to determine the status of mathematical objects with greater precision, Proclus uses his exegesis of *Tim.* 35 a–36 d, where Plato constructs the soul out of mathematical forms, divides it according to numbers and binds it together with proportions and harmonious ratios. This passage shows that the first principles of all geometric

¹³⁷ *In Eucl.* 6.17–19.

¹³⁸ This requirement was of course not part of the Aristotelian understanding of continuity. Cf. Bostock (1991) 179.

¹³⁹ *In Eucl.* 6.19–22: καὶ τῆς μὲν ἀπειρίας οὐκ οὔσης τὰ τε μεγέθη πάντα σύμμετρα ἂν ἦν καὶ οὐδὲν ἄρρητον οὐδὲ ἄλογον, οἷς δὴ δοκεῖ διαφέρειν τὰ ἐν γεωμετρίᾳ τῶν ἐν ἀριθμητικῇ. 278.19–24: ὅταν γὰρ δεικνύωσιν ὅτι ἔστιν τὸ ἀσύμμετρον ἐν τοῖς μεγέθεσι καὶ οὐ πάντα σύμμετρα ἀλλήλοις, τί ἄλλο δεικνύναι φήσει τις αὐτοὺς ἢ ὅτι πᾶν μέγεθος εἰς αἰεὶ διαιρεῖται καὶ οὐδέποτε ἤξομεν εἰς τὸ ἀμερές, ὃ ἐστὶ κοινὸν μέτρον τῶν μεγεθῶν ἐλάχιστον. Physical bodies and matter share this type of unlimitedness; the influence of the unlimited even increases as one moves downwards. This explains the unstableness of the physical realm (cf. *In Tim.* II 1.386.1–2; *In Parm.* VI 1119.15–22) and constitutes a further argument against Xenocrates’ theory of indivisible lines. Xenocrates’ mistake consists in taking indivisible lines to be *physical*, i.e. material things. Cf. Syr., *In Metaph.* 123.18–124.6, and above, p. 194.

¹⁴⁰ *In Eucl.* 7.11–12. On the role and provenance of the principles Limited/Unlimited, see *In Parm.* VI 1116.21–1123.21 and Van Riel (2000).

¹⁴¹ See also Nikulin (2002) 96.

¹⁴² *In Eucl.* 36.5–11.

¹⁴³ On the role of the infinite in arithmetics, see N. Hartmann in Breton (1969) 195–196.

shapes, *i.e.* the straight (line) and the circle, are present in the soul. The first shapes—the first products of the straight and the circle—exist in the soul and are the zodiacal shapes, preceding the visible shapes. The visible circular motion is in its turn anticipated by an intellectual motion along invisible circles. This is a world-order (διάκοσμος) which is not only without body but also *without extension*,¹⁴⁴ despite the fact that it contains shapes. The psychic form of extended things and the numbers existing in the soul should not be understood after the manner of body, but as ‘living and intellectual paradigms’¹⁴⁵ of visible sets, shapes, ratios and motions.¹⁴⁶ These objects can be considered as being in an intermediary state with respect to divisibility: they are divisible in that it is possible to distinguish parts in every figure (lines, angles); yet every figure is indivisible in form insofar it is regarded as a unity (there is *one* figure called the square, corresponding to one definition or formula).¹⁴⁷

The preceding remarks pertained to indivisibility and geometry. Similar things can be said about geometry and motion. Geometricals are invariable and unmoved, but can also be regarded as *generated* out of other figures, *i.e.* by the movement of a point, of a line, of a circle etc. The mathematical activity of the soul is neither motionless like intellectual cognition is, nor is it moved like sense-perception. For its motion is not change of place or quality, but a ‘living’ motion (διὰ δὲ κινήσεως οὐ τοπικῆς οὐδὲ ἀλλοιωτικῆς..., ἀλλὰ ζωτικῆς);¹⁴⁸ it ‘unfolds and traverses the immaterial cosmos of forms, now moving from first principles to conclusions, now proceeding in the opposite direction.’¹⁴⁹

It can be concluded from the passages we have looked at so far, taken from the first prologue to the *Euclid Commentary*, that geometric objects have shape, but no extension,¹⁵⁰ and that there is some kind of motion in

¹⁴⁴ In *Eucl.* 17.3–4: ἀσωμάτως καὶ ἀδιαστάτως.

¹⁴⁵ Locomotion is linked with life, alteration with cognition. Cf. p. 226.

¹⁴⁶ In *Eucl.* 17.7–10; 18–21; 137.18–24.

¹⁴⁷ Cf. Nikulin (2002) 131.

¹⁴⁸ In *Eucl.* 18.22–23.

¹⁴⁹ In *Eucl.* 18.23–24. Proclus explains that according to the Pythagoreans the soul by virtue of its internal motion produces motion outside itself. ‘For it itself revolves in circles but abides always the same by virtue of the causes of the circle, namely the straight line and the circumference’ (37.6–8). For the spiritual motion of the soul, see p. 226.

¹⁵⁰ For the idea of unextended ‘unfigured figures’ (σχήματα ἀσχημάτιστα), existing in the intelligible, see already Plot., VI.6 [34] 17.11–32. At the highest level of being figure is one. Posterior to that, but still within the intelligible (for the hierarchical structures

the soul, which does not have the characteristics of physical motion. In the second prologue, dealing more specifically with geometry, Proclus in part repeats what he said in the first prologue, and adds some interesting theories. He sticks to the view that if geometric objects are immaterial, they must be unextended. It is only in a receptacle that the indivisible appears as divisible, the unextended as extended, the motionless as moving.¹⁵¹ The obvious problem now is that in geometry we bisect the straight line—a form of division—, we speak of differences between angles and of increases or decreases of figures. All of this presupposes extended magnitude: ‘All these things indicate that the subject-matter of geometry is divisible and not composed of partless ideas.’¹⁵²

Geometrical practice shows that geometrical thinking cannot limit its operation to the level of unextended shapes, as it would appear from the first prologue. Geometers also study extension, and this not just by looking at shapes in matter, but also by means of mental representations of extended objects. In order to do this they need imagination (φαντασία), which is inferior to reason (διάνοια). As an irrational faculty, imagination does not belong to the ‘real’, *i.e.* the rational soul.¹⁵³ Whereas the dianoetic forms are indivisible and unextended,¹⁵⁴ the objects of imagination are divisible and extended. Imagination produces particularised images that have divisible extension and shape.¹⁵⁵ Because of the difference of sizes the objects get pluralised:¹⁵⁶ *phantasia*

in this passage, regarding which Plotinus appears to be wavering, see Bertier, Brisson *et al.* (1980) 191–192 and Procl., *In Tim.* II 1.427.6–22) figure is ‘divided’, not in the sense of being spatially extended, but in the sense of being individuated and distributed over different parts. The intelligible pyramid, for instance, is allotted to intelligible fire. Cf. Horn (1995) 277–278.

¹⁵¹ *In Eucl.* 49.24–50.2.

¹⁵² *In Eucl.* 50.7–9.

¹⁵³ Cf. *In Eucl.* 141.14: ἔξω ἐαυτῆς εἰς φαντασίαν βλέπουσα. On the irrational soul and imagination see Opsomer (2006b) 137, 147. Imagination is a faculty that is akin to body. It is in imagination that Aristotle’s so-called intelligible matter is to be found (cf. n. 155).

¹⁵⁴ *In Eucl.* 50.14–16. Also Syr., *In Metaph.* 91.31–32; 93.2–3; 94.19–26.

¹⁵⁵ *In Eucl.* 51.20–52.3; 52.22–25. Proclus (51.16–20; 142.11–19) also appeals to Aristotle’s idea of ‘intelligible matter’, which Proclus understand as ‘the matter of *phantasia*’. Cf. *Metaph.* VII.10 1036 a 9–12; VII.11 1037 a 4–5; Morrow (1970) 41, n. 5; Cf. Cleary (2000) 97–98; Nikulin (2002) 132–143 and Harari (2006) 371–373. Proclus seems reluctant to use the Aristotelian expression, for it is somewhat inappropriate. In any case, imagination functions as the substrate for dianoetic forms. Proclus analyses the relation between imagination and reason in hylomorphic terms, as did his master: Syr., *In Metaph.* 186.17–19.

¹⁵⁶ *In Eucl.* 53.15–16. This is similar to mathematical number which the Old Academics distinguished from eidetic number. Yet Proclus treats number in a crucially

does not represent *the* circle, but *a* circle, *i.e.* one out of a potentially infinite number of circles.

Hence the circle in reason is one and simple and unextended, and magnitude itself is without magnitude there (αὐτὸ τὸ μέγεθος ἀμέγεθες ἐκεῖ), and figure without shape (τὸ σχῆμα ἀσχημάτιστον); for such objects in reason are formative principles devoid of matter (λόγοι ἄνευ ὕλης). But the circle in imagination is divisible, formed, extended (ὁ δ' ἐν φαντασίᾳ μεριστὸς ἐσχηματισμένος διάστατος) (*In Eucl.* 54.5–9).

Geometry, at this level, deals with circles (plural) as they appear in the imagination.¹⁵⁷ What existed in a hidden manner (κρυφίως) in reason, gets represented as divisible and extended in imagination.¹⁵⁸

Whereas the emphasis in the Prologues to the *Commentary on Euclid* is on our cognitive grasp or way(s) of representing geometric objects, the *Parmenides Commentary* contains valuable information regarding Proclus' views on the way in which geometric forms may be present at even higher levels of reality. To put it differently: it tells us about the paradigms that are grasped as shapes by the soul and ultimately get realised as actual extended geometric forms in matter. It becomes clear that the objects of geometry in a stricter sense—geometric shapes such as they are studied by geometers—are somehow present, as prefigurations, at higher ontological levels.

The occasion to discuss these matters is offered by Plato's mention of 'the round' and 'the straight' in the first hypothesis of the *Parmenides* (137 e). Proclus warns against a mathematical or vulgar interpretation of these notions (οὐ μαθηματικῶς ταῦτα καὶ δεδημευμένως ἀκουστέον). We should understand how they are connected to procession and return:

Procession may be seen as represented by 'straight' and by the illumination which proceeds from causal principles; return is represented by 'round', as reflecting back upon its own principle and as making this its end.¹⁵⁹

different way from geometric objects, in that numbers have a higher psychic location. The many instances of one single number do not originate in imagination as a result of projection, but in *doxa*. Cf. Mueller (2000) 73–74.

¹⁵⁷ *In Eucl.* 54.19–22. To be more precise: the geometer studies the dianoetic circle, but makes her demonstrations about the circles in *phantasia*. Cf. 54.22–55.2 and Plato, *Resp.* VI 510 c 5–511 a 2.

¹⁵⁸ *In Eucl.* 56.13–15. See also Bechtle (2006) 336–338.

¹⁵⁹ *In Parm.* VI 1129.17–1130.38. The passage quoted, in the translation of G. R. Morrow and J. Dillon, is based on the Latin translation by Moerbeke, which gives a fuller text (a part of the Greek seems to be missing). Cf. Steel (1985) 408.82–409.85.

Every intellectual being, on the one hand, proceeds along a straight path, and, on the other, is round because it returns upon its own good as its centre.¹⁶⁰ Thus the straight and the round exist primarily in the intellectual realm. Secondly they are present in the soul, and finally they are participated by sensible objects. Only in the sensible realm do rectilinear figures exist in a spatially extended and divisible way.¹⁶¹ The primary round and the straight, being the principles of geometric shapes,¹⁶² have an existence that transcends spatial extension and divisibility.¹⁶³

The different ontological levels at which there are figures are summed up in a passage in the *Commentary on Euclid* (136.20–142.7). In ascending order these are:

- a) material shapes of human artefacts: impure and imperfect (137.3–8; 139.3–5);
- b) material shapes in nature, especially the celestial figures: these are ‘divisible and have their existence in other things’¹⁶⁴ (137.8–17; 139.5–6);
- c) psychic shapes, also called ‘self-moved’ in contrast to the material shapes which are called extrinsically moved (137.18–24; 142.3). They participate in differentiation, variety and development (139.6–7: διαίρέσεως καὶ ποικιλίας μετείληφεν καὶ ἀνελίξεως παντοίας), but are immaterial and unextended (137.21–22). Yet when the soul looks outside itself at imagination as at a mirror, the figures it sees are extended (141.10–19).

¹⁶⁰ See also *In Tim.* III 2.99.5–6; III 2.273.9–15.

¹⁶¹ *In Parm.* VI 1131.17–21 (trans. Morrow and Dillon): ‘Thus he makes clear that these figures have come down from some exalted divine order, since they have the capacity to organise all undivided things such as intellect, and divisible things such as the visible cosmos, and median things such as soul... So then, these qualities penetrate down from the intellectual realm to the realm of generated things, the straight becoming the cause of procession, the circular of return.’ See also *In Eucl.* 154.6–155.22; Syr., *In Metaph.* 123.27–31. In order to show this, Plato makes the sphere the shape of the whole universe and assigns the five regular polyhedra to the parts of the universe, inscribing them in the encompassing sphere (*In Parm.* VI 1130.39–1131.17, cf. *Tim.* 54 a–55 a).

¹⁶² Plato defines the round as ‘that whose extremities are everywhere equidistant from the middle’, and the straight as ‘that whose middle stands in the way of the extremities’ (*Parm.* 137 e 1–4). In the same passage Plato mentions ‘figure’ without defining it, but see *Eucl.* 1 def. 14 (‘that which is contained by any boundary or boundaries’); cf. Procl. *In Eucl.* 136.20–142.7; *In Parm.* VI 1132.12–14.

¹⁶³ Cf. Beierwaltes (1965) 167.

¹⁶⁴ Plotinus, distinguishing intelligible from physical figures, states that the former are ‘not in others, but belong to themselves.’ Plot., VI.6 [34] 17.26–27.

- d) intellectual shapes, having the characteristic of being ‘unified’, ‘indivisible’ and ‘unchanging’ (137.24–138.4; 139.8; 140.14; 142.4).
- e) the hidden, unspeakable, unitary figures of the gods (138.5–22; 139.9; 140.15; 142.7).
- f) [The One completely transcends all figure: see *In Parm.* VI 1132.9–29.]

In the *Platonic Theology* Proclus defines the intellectual origin of figures in even greater detail: the straight and the round, being the principles of mathematical figures, first appear in the inferior triad of the intellectual-intelligible realm. From there they proceed downwards and form the intellectual figures, such as they are present primarily in the demiurge. The inferior intellectual-intelligible triad is thus the first to be formally characterised by figure. At higher levels, more precisely in the intelligible realm of the gods, there are only ‘hidden’ ‘unspeakable’ or ‘secret’ figures, the figures of the gods.¹⁶⁵

As one moves downwards unity decreases and division increases. This is why figures in the rational soul (*i.e.* in διάνοια) are called divisible when compared to the higher paradigms of which they are images, and indivisible when compared with their reflections in imagination.¹⁶⁶ So how should we envisage the different levels of figures more concretely? Let us give it a try. The divine figures are unknowable and inexpressible, so we should not waste words on them. In the third

¹⁶⁵ ‘Figure’ (cf. *Parm.* 137 d 8–e 4 in the first, and 145 b 3–5 in the second hypostasis) is the dialectical name of the inferior intelligible-intellectual triad or ‘subcelestial vault’ (*Theol. Plat.* IV.12 40.13–17), the level at which the first figures appear καθ’ ὑπαρξιν, *i.e.* as formally characterising the level at which they are. The highest intelligible-intellectual triad, on the contrary, is the supraccelestial place (*Theol. Plat.* IV.10 35.11–16). It transcends figure and is called ἀσχημάτιστος in *Phaedr.* 247 c 6, but can also be called the ‘beginning’ of figure since it constitutes the unitary cause of all figures. At an even higher level intelligible intellect contains the intelligible causes of all figures, secret and unknown (*In Parm.* VI 1127.28–1129.9, esp. 1128.21–37; *In Tim.* III 2.70.5–14; see also *Herm.*, *In Phaedr.* 31 149.10–150.2). ‘Up there’ figures are prefigured κατ’ αἰτίαν, in the last intelligible-intellectual triad they appear for the first time καθ’ ὑπαρξιν (for the distinction see n. 183). Proclus sometimes uses the label ‘intellectual’ to designate both the intelligible-intellectual and the intellectual realm indiscriminately. *E.g.* *In Tim.* III 2.70.14–17 (on the circle): ἔστι δὲ μᾶλλον ἐν τοῖς νοεροῖς θεοῖς· ἐκεῖ γὰρ καὶ τὸ σχῆμα τὸ νοερὸν καὶ τὸ εὐθὺ καὶ τὸ περιφερές, ὡς ἐν Παρμενίδῃ λέλεκται. II 1.273.9–15; *In Parm.* VI 1130.11–12 (ἐκαστον τῶν νοερῶν). He is more precise earlier on in the passage from which the last citation is taken: 1127.29–30: τὴν νοητὴν ἀκρότητα τῶν νοερῶν, an expression that indeed designates the last level of the intelligible-intellectual realm, which can be regarded as the upper border of the intellectual. See also *Theol. Plat.* II.12 67.14–68.5; IV.37 108.5–109.21. These issues are set out more extensively by Steel (2007c.).

¹⁶⁶ See p. 216 and *In Eucl.* 139.6–8.

intelligible-intellective triad there are only the straight and the round, free from extension. The intellective realm contains figures, one for each type. Presumably there is but one intellective triangle.¹⁶⁷ In the rational soul, *i.e.* in reason, there will already be different types of triangles: the equilateral, the scalene etc.¹⁶⁸ At this level they all lack extension, however. Although there is no infinite divisibility and no incommensurability here, Proclus thinks it is permissible to call dianoetic geometric figures continuous, as we have seen (p. 216). The ‘continuous without magnitude’ would then be that characteristic of a dianoetic geometric figure which makes its conceptually distinguishable components parts of one single figure, without ‘gaps’. This continuity can be conceived as non-spatial and unextended, because the dianoetic figure has no magnitude.¹⁶⁹ Extension and magnitude appear for the first time in the irrational faculty of imagination, which is close to body (and has Aristotle’s ‘intelligible matter’).¹⁷⁰ Here figures are not only differentiated according to types, but also to magnitude. Here there can be a plurality, though not an actual infinity, of, say, scalene triangles, all having identical angles (triangles of the same shape, that is). These are infinitely divisible, but every actual division is clearly bounded by limits. Incommensurability, *i.e.* mathematical irrationality, is probably restricted to the physical world and is closely bound up with matter.¹⁷¹ One could suspect that it is also a property of geometrical imagination (and intelligible matter), yet Proclus may have believed it is not possible

¹⁶⁷ It is better to use triangles as an example, rather than circles (the example used p. 221), for there are several types of triangles, whereas circles can only be individuated by their magnitude.

¹⁶⁸ I have no evidence for this. Possibly Proclus thought that at the level of reason there is only one triangle. The problem with that view is that there would be no geometric knowledge of the properties of different types of triangle. For geometry is *about* dianoetic objects, and merely uses imagination in order to make things easier to comprehend. There can be no knowledge of different properties if they have not been differentiated. Cf. n. 157 and 173. For the essence of the dianoetic triangle, see *In Eucl.* 384.5–21, with Schmitz (1997) 140–144, 205–206. For the types of triangles, see *In Eucl.* 164.27–168.25.

¹⁶⁹ *In Eucl.* 17.8–9. The explanation of two types of continuity given by Radke (2003) 583–587 seems to me to be not quite accurate, insofar I understand her point. For one thing, ‘dimensionality’ (the characteristic of being *n*-dimensional) would belong to the more abstract form of continuity, too.

¹⁷⁰ Cf. n. 155.

¹⁷¹ *E.g. In Tim.* II 1.384.29–395.2. I agree with Harari (2006), who claims (371) that ‘imagined geometrical objects, being immanent universals..., are not universals in the strict sense.’

to picture incommensurable magnitudes in the imagination. After all he says there is no knowledge of the irrational. But then he also holds the view that the geometer's *knowledge* is dianoetic,¹⁷² and not at the level of imagination.¹⁷³ It is also not clear whether Proclus would allow the idea of incommensurability in the celestial bodies.

VI. *Spiritual motion*

Without infinite divisibility and irrationality (incommensurability) we do not have a mathematical continuum, yet continuity, as we have seen, is an essential prerequisite for physical motion. What are the consequences for so-called spiritual motion, if there is no incommensurability nor unlimited divisibility in the rational soul, let alone in intellect? Motion up there must be crucially different from physical motion. Proclus indeed once again warns against vulgar, *i.e.* physical interpretations.¹⁷⁴

In intellect motion takes the form of procession and return. Since these are forms of being in motion, one could designate these motions as passive motions, inappropriate as it may be to speak of passivity in the spiritual realm. Yet this expression is warranted by Proclus' use of the passive verb forms of κινέω.¹⁷⁵ The presence of passive motion at

¹⁷² The science of geometry is inferior to the cognition of intellect: *Prov.* 30 1–9 (l. 5–6: 'intellectum iam et non scientiam ipsam'); 30 25–27. Proclus situates dialectic (*Prov.* 29) between geometry (*Prov.* 28) and intellectual knowledge.

¹⁷³ Cf. Cleary (2000) 99. See *In Eucl.* 54.27–55.6; Syr., *In Metaph.* 91.31–34: the fact that in doing geometry we make use of the imagination and represent geometric objects as extended is due to our weakness. Harari (2006) argues, correctly I think, that certain features of geometric objects only appear at the level of imagination. They are first produced there, by the projection of dianoetic *logoi*. '[T]he projection of the reason-principles of discursive reason onto the imagination does not merely exemplify the content of discursive reason; they also reveal content that cannot be fully apprehended by discursive reason alone. The projections onto the imagination transform the discursive reason-principles; they turn them into composite, extended and divisible entities' (p. 376). That is why demonstrative proofs of certain geometric properties can only be made at the level of imagination, since this is where these attributes first appear. The use of imagination in geometry, then, also has a positive side: this is where new attributes are produced. Yet, as Harari also acknowledges, these attributes preexist in a hidden way in the cause. Cf. p. 382: 'the occult nature of causes, which accounts for the indispensability of geometrical constructions by excluding the possibility of purely intellectual [*sc.* dianoetic] apprehension of causes in geometry.'

¹⁷⁴ *In Parm.* VII 1155.27–28: ἵνα μὴ φυσιολογούντες ἐν τοῖς περὶ τῶν θεῶν λόγοις διατρίβωμεν. Cf. Syr., *In Metaph.* 95.26–28.

¹⁷⁵ *E.g.* at *In Parm.* VII 1156.3.

this level, however, seems to contradict our analysis of the hierarchy of motion. Weren't intellects supposed to be *unmoved* movers? Insofar physical motion is concerned, they are indeed unmoved. Physical motion, however, is the image of a higher form of 'motion', one that is proper to intellectual being. As was the case with intellectual roundness and straightness, spiritual motion does not presuppose the structure of the mathematical continuum.

Proclus finds evidence for spiritual motion in Plato, but not in book ten of the *Laws* where Plato distinguishes eight passive motions, one active motion in which mover and moved are distinct, and self-motion in which mover and moved are identical.¹⁷⁶ This classification of motions into ten categories pertains merely to natural motion. The more encompassing account of motions or changes, so Proclus argues, is to be found in the first hypothesis of the *Parmenides*.¹⁷⁷ At 138 b 8–c 1 Plato mentions only two types of motion: locomotion (φορά) and alteration (ἀλλοίωσις).¹⁷⁸ All forms of motion, physical as well as spiritual, can be subsumed under one of these two types. In order to get a better grasp of what these motions might be in the higher realms Proclus looks at bodily motions, with which we are after all more familiar. In the case of bodies 'locomotion' stands for changes with respect to a thing's external relations, whereas 'alteration' designates any of its internal changes. These types can also be found in souls and intellects. Souls can be said to alter insofar as they assimilate themselves (*i.e.* in their activities, not in their essence)¹⁷⁹ to different forms, *i.e.* to different intellectual activities. Insofar as they move around in the 'intelligible place' and go about in a 'circuit'¹⁸⁰ they also experience locomotion. Alteration is connected to the powers of life, locomotion to the cognitive faculties.¹⁸¹ Intellect too has both types of change. Its participation of the intelligible, which makes intellect itself something intelligible, can be regarded as

¹⁷⁶ *Leg.* X 893 b–894 c (see also n. 119).

¹⁷⁷ *In Parm.* VII 1155.15–27; 1158.12–17.

¹⁷⁸ *Parm.* 138 b 8–c 1: Ὅτι κινούμενόν γε ἢ φέροιτο ἢ ἀλλοιοῖτο ἄν· αὐταὶ γὰρ μόναι κινήσεις. The translation 'locomotion' may seem infelicitous, as it refers to place, but is justified insofar it refers to a noetic place (cf. *In Parm.* VII 1157.8–21; 31–32).

¹⁷⁹ *In Parm.* VII 1157.9: ταῖς ἐνεργείαις. Thanks to this restriction Proclus is able to maintain that the essence of soul is not liable to change.

¹⁸⁰ Cf. *Phaedr.* 247 c 3 (τὸν ὑπερουράνιον τόπον); d 4–5 (κύκλῳ ἢ περιφορά... ἐν τῇ περιόδῳ).

¹⁸¹ *In Parm.* VII 1157.21–28.

an alteration; its actuality with respect to the intelligible which is as it were its own centre constitutes the prefiguration of sensible motion.¹⁸² Proclus obviously does not want to say that the intellect is really moved; passive motion is at this level only, we may say, foreshadowed 'in the causal mode' (κατ' αἰτίαν).¹⁸³ He makes a similar restriction for the alteration and locomotion of the soul: the soul contains the causes of alteration and topical change.¹⁸⁴ By these qualifications Proclus does not just say that physical motion is an image of spiritual motion, but more or less admits that to speak of spiritual motion actually requires stretching the meaning of the word.¹⁸⁵

Passive sensible motion is thus contained causally in the complex dynamic structure of intellect.¹⁸⁶ Spiritual motion is situated beyond the realms of space and time, yet requires some form of multiplicity. Multiplicity is indeed the necessary condition for motion in general. In the physical realm this multiplicity is continuous. Contrarily, multiplicity in the spiritual realm does not have the structure of a mathematical continuum,¹⁸⁷ but is discrete, if we adopt the terminology of Aristotle's *Categories*.¹⁸⁸ Even if Proclus sometimes speaks of continuity (*i.e.* uses the word συνεχής and its cognates)¹⁸⁹ in the spiritual realm, this continuity

¹⁸² *In Parm.* VII 1158.2–4: καὶ οἷον περὶ κέντρον αὐτοῦ τὸ νοητὸν ὑπάρχον ἐνεργεῖν, τῆς ἐνταῦθα περιφορᾶς τὸ παράδειγμα προεῖληφεν. 1158.16–17.

¹⁸³ This term is explained at *Elem. Theol.* 65.

¹⁸⁴ *In Parm.* VII 1157.26–28.

¹⁸⁵ In *In Parm.* VII 1155.37–39 Proclus identifies the life-giving class of gods as the cause of all motions, since all life is a form of motion. This is intellectual life or Rhea, the life-giving goddess (*Theol. Plat.* V.11 37.22; 38.14–26), second monad of the intellectual gods. Higher causes of life (the second intelligible-intellectual triad) are not designated as τὸ ζωογονικόν, but as τὸ γεννητικόν: *Theol. Plat.* V.1 8.3–10. The second intellectual monad has received the dialectical name κινούμενον and can thus be considered the first occurrence of passive motion. However, it is causally prefigured in the second intelligible-intellectual triad, called κίνησις or Life, and in an even more eminent way in the second intelligible triad, *i.e.* Eternity. See *Theol. Plat.* V.38 140.17–141.17; *Elem. Theol.* 102 92.9–10. The ontological rank of motion is thus lower than that of figure: see n. 165.

¹⁸⁶ Cf. Gersh (1973) esp. 103–106. Even intellect is not absolutely unmoved, but only the very highest gods are: *Theol. Plat.* I.19 93.19–94.8; *In Parm.* VII 1156.22–23.

¹⁸⁷ The intelligible is unextended, as Plotinus said (VI.5 [23] 10.46).

¹⁸⁸ This terminology is taken over by Platonists. Cf. Iamb., *In Nicom.* 7.8–10: κυρίως δὲ τὸ μὲν συνεχὲς καὶ ἡνωμένον καλοῦτ' ἂν μέγεθος, τὸ δὲ παρακείμενον καὶ διηρημένον πλῆθος.

¹⁸⁹ *E.g. In Eucl.* 22.24 and n. 126. Maybe a word-play is intended in the description of the role of limit and its manifestations (the point) as that which 'holds together', συνέχει. *E.g. In Eucl.* 89.10–14; 23–28; 90.3–4; 115.22. For the synectic cause, see Steel (2002).

cannot be understood in the mathematical sense,¹⁹⁰ for *that* continuity, which is the continuity of spatial extension, includes and presupposes infinite divisibility, incommensurability and irrationality (in the mathematical sense,¹⁹¹ but not just in that sense). That kind of ‘unlimited’ is, indeed, absent from the spiritual realm. Neither does denseness, a constitutive property of the mathematical continuum, pertain to the spiritual realm, for one cannot insert ever more intermediaries *ad libitum*. The number of spiritual entities is indeed limited, and there is not ‘room for more’ between any two of them (one should not even argue that spiritual beings are contiguous, since they are indivisible).¹⁹² Proclus is to be taken seriously when he says that the distinction between the sensible and the spiritual realm coincides with that between the divisible and the indivisible (with the qualification that the soul is in this respect intermediate: see pp. 209–211, 219). It would be better, then, to avoid the expression ‘spiritual continuum’.¹⁹³ Compared to the continua of time, space and bodily nature the spiritual realm can only be called a continuum homonymously. The same is true for spiritual and physical motion. The Neoplatonist would agree, but add that the relation between spiritual motion and physical motion constitutes a special case of homonymy, in which one is the producing cause and paradigm of the other.¹⁹⁴ Yet the two types of ‘motion’ seem to have little in common. As being essentially a directional relation between entities spiritual

¹⁹⁰ Aristotle, criticising Plato’s account of the soul in the *Timaeus*, specifies that the continuity of νοῦς (which he treats as equivalent to Plato’s cognising world soul) is not that of a magnitude. Rather the objects of thought constitute a series, and are therefore akin to number, *i.e.* constitute a discrete quantity. Intellect is then not mathematically continuous, but indivisible: *De An.* I.3 407 a 9–10.

¹⁹¹ Nikulin (2002) 94–95.

¹⁹² Cf. *Elem. Phys.* I.1–2: indivisible beings do not touch nor do they make up a continuum (they could only touch with a part of themselves). One could object that it is improper to apply arguments from physics to the spiritual realm. The real problem, however, is that ‘touching’ is a physical metaphor whose application to the spiritual is deeply problematic. The argument of *Elem. Phys.* I.1–2 (cf. Arist., *Phys.* VI.1 231 a 21–b 18) remains valid, independently of the realm to which it applies: indivisibles do not touch, they can merely be successive (ἐφεξῆς). The same is true regarding their being unmoved (cf. n. 30), at least insofar physical motion is concerned.

¹⁹³ As in Gersh (1973) 94.

¹⁹⁴ Cf. Opsomer (2004) 35–47. Syr., *In Metaph.* 95.23–25 claims that spiritual motion more accurately (*i.e.* more truly) represents what motion is than physical motion, thereby showing himself to be a true Platonist.

motion may prefigure physical motion, but the absence of the continua of space and time or any other isomorphic continuum¹⁹⁵ constitutes an essential difference.¹⁹⁶

¹⁹⁵ If one wants to avoid the continuum of geometric extension, one could think of real number spaces, a concept that was of course not only inconceivable but would also have been inadmissible for the immaterial realm, as it would import actual infinity into the intelligible. The theory of real number in the framework of set theory, both unavailable to Proclus, provides a theoretical solution to the problem of the transition of discrete to continuous quantity. See n. 24. In the absence of this theoretical framework, the transition remains mysterious.

¹⁹⁶ I thank Chiara Russi for various suggestions and James Wilberding for his assistance with the English idiom.

PROCLUS ON MATTER AND PHYSICAL NECESSITY

Gerd Van Riel

In a Platonic universe, all order is seen as imposed on natural things by a divine agent, who has to cope with a substrate that in itself is disordered and chaotic. This Platonic view entails a number of specific problems, to which Plato does not seem to offer a straightforward answer. Present-day scholarship is still divided concerning crucial points of the doctrine, and this hesitation about Plato's view of a divine creator and the substrate of his operation existed already in ancient times. Aristotle rejected this view straightforwardly, and, generally speaking, the later ancient tradition favoured Aristotle's hylemorphism over against the Platonic account.

In the present contribution, we should like to focus on Proclus, one of the most important and notorious followers of the Platonic account of divine creation. As Proclus is taking Plato 'à la lettre', he will have to provide answers to the main problems of the doctrine: how did he envisage the interaction between the order-giving divinity and the substrate of its operation? How exactly is the order of the divine realms translated into laws governing the lower realms? Moreover, how does the substrate of this ordering look like, and which role does it play in the legislation? As with positive law, the rules imposed are always designed to tackle particular problems in particular circumstances. That is to say: the subjects to the law determine the conditions that lead to the legislation. Hence, if one translates the imagery of law-giving to nature, then the notion of physical necessity will have two different components: the necessity imposed on nature by the laws, and the necessity exhibited by the substrate, imposing itself on the law-giver.

From this perspective, we shall have to unravel many stages of necessity, and of the substrate alike; doing so, we hope to contribute to a further elucidation of the Neoplatonic hierarchical world-view, and particularly of its lowest stages.

I. *Plato's Timaeus*

The basic idea of Plato's cosmology is that any kind of order is brought about by an immaterial, intellectual operation that leads the universe. In the tenth book of the *Laws*, which is Plato's main treatise (if that term may be used) on theology, Plato subtly modifies the scope of the famous φύσις-νόμος-debate that occupied the previous generation of philosophers and sophists. He claims that the cosmos cannot be explained on the basis of merely physical principles, *i.e.*, material principles that are inherent in nature, but rather that all existing things are brought about by an order that is imposed on them by soul—and thus, the essential characteristic of nature is this order or law: φύσις is νόμος.¹

In the *Timaeus* this central idea is elaborated in detail, with an important extra element, namely that the intelligent design is here confronted with a counterpart that has an important influence on the operation of the demiurge. At *Tim.* 47 e–48 a, after a discussion of the demiurge's intervention to create the universe, the world soul, the gods, time and the planets, and living beings, Timaeus introduces a new element. The world, he says, is not just the result of the intellect's operations. It has come about by a combination of ἀνάγκη (necessity) and intellect (νοῦς):

Now in all but a brief part of the discourse I have just completed I have presented what has been crafted by Intellect. But I need to match this account by providing a comparable one concerning the things that have come about by Necessity. For this ordered world is of mixed birth: it is the offspring of a union of Necessity and Intellect. Intellect prevailed over Necessity by persuading it to direct most of the things that come to be toward what is best, and the result of this subjugation of Necessity to wise persuasion was the initial formation of this universe. So if I'm to tell the story of how it really came to be in this way, I'd also have to introduce the character of the Straying Cause—how it is its nature to set things adrift.²

¹ Plato, *Leg.* X 884 a–907 d.

² *Tim.* 47 e 3–48 a 7 (trans. D. J. Zeyl): Τὰ μὲν οὖν παρεληλυθότα τῶν εἰρημένων πλὴν βραχέων ἐπιδέδεικται τὰ διὰ νοῦ δεδημιουργημένα· δεῖ δὲ καὶ τὰ δι' ἀνάγκης γιγνόμενα τῷ λόγῳ παραθέσθαι. μεμειγμένη γὰρ οὖν ἡ τοῦδε τοῦ κόσμου γένεσις ἐξ ἀνάγκης τε καὶ νοῦ συστάσεως ἐγεννήθη· νοῦ δὲ ἀνάγκης ἄρχοντος τῷ πείθειν αὐτὴν τῶν γιγνομένων τὰ πλείστα ἐπὶ τὸ βέλτιστον ἄγειν, ταύτη κατὰ ταῦτά τε δι' ἀνάγκης ἡττωμένης ὑπὸ πειθοῦς ἔμφορος οὕτω κατ' ἀρχὰς συνίστατο τότε τὸ πᾶν. εἴ τις οὖν

Thus, it is said, we shall have to restart the speculations, taking into account this new feature. This new enterprise starts off with a difficult question: how did the four elements come to be? As Plato will point out in the *Laws*, this natural order should be explained, without taking for granted the existence of material components.³ If the four elements are well structured determinations, they are issued by the demiurgic activity of the intellect.

The activity of the demiurge thus comes down to providing an imprint of formal determinations—which presupposes a kind of place or substrate that undergoes this imprint, and that in itself is entirely devoid of order. At *Tim.* 30 a, this substrate had been introduced in the following way:

The god wanted everything to be good and nothing to be bad so far as that was possible, and so he took over all that was visible—not at rest but in discordant and disorderly motion—and brought it from a state of disorder to one of order, because he believed that order was in every way better than disorder.⁴

By this discordant and disorderly movement, the substrate ('all that was visible') is recalcitrant to the demiurge's activities. At *Tim.* 52 d–53 b, after the new start of the same line of argument, this substrate is introduced again, as the famous receptacle, which according to Plato has an existence of its own and a proper dynamic. It is shaken by all kinds of forces, and by this movement, the like had already begun to come together with the like. As in a sieve, when you start shaking, the heavy parts coming together with the heavy, and the light with the light:

Now as the wetnurse of becoming turns watery and fiery and receives the character of earth and air, and as it acquires all the properties that come with these characters, it takes on a variety of visible aspects, but because it is filled with powers that are neither similar nor evenly balanced, no part of it is in balance. It sways irregularly in every direction as it is shaken by those things, and being set in motion it in turn shakes them. And as

ἡ γέγονεν κατὰ ταῦτα ὄντως ἐρεῖ, μεικτέον καὶ τὸ τῆς πλανωμένης εἶδος αἰτίας, ἥ φέρειν πέφυκεν.

³ *Leg.* X 891 b–892 d.

⁴ *Tim.* 30 a 2–6 (trans. D. J. Zeyl): βουλευθεὶς γὰρ ὁ θεὸς ἀγαθὰ μὲν πάντα, φλαῦρον δὲ μηδὲν εἶναι κατὰ δύναμιν, οὕτω δὴ πᾶν ὅσον ἦν ὁρατὸν παραλαβὼν οὐχ ἡσυχίαν ἄγον ἀλλὰ κινούμενον πλημμελῶς καὶ ἀτάκτως, εἰς τάξιν αὐτὸ ἤγαγεν ἐκ τῆς ἀταξίας, ἡγησάμενος ἐκείνο τούτου πάντως ἄμεινον.

they are moved, they drift continually, some in one direction and others in others, separating from one another. They are winnowed out, as it were, like grain that is sifted by winnowing sieves or other such implements. They are carried off and settle down, the dense and heavy ones in one direction, and the rare and light ones to another place.⁵

Hence, even before the order was actually brought about, the elements had already started off clinging together, and there were already traces (ἵχνη) of what was going to be water, fire, earth and air:

Indeed, it is a fact that before this took place the four kinds all lacked proportion and measure, and at the time the ordering of the universe was undertaken, fire, water, earth and air initially possessed certain traces of what they are now. They were indeed in the condition one would expect thoroughly god-forsaken things to be in. So, finding them in this natural condition, the first thing the god then did was to give them their distinctive shapes, using forms and numbers.⁶

This description of the substrate of creation, having its own dynamic and motion, has been much debated in the Platonic tradition. Long standing debates are still an issue in contemporary Plato scholarship: what is the nature and status of the receptacle? Is it a sort of container of the physical world, or is it the primordial matter out of which the universe is created? And how does this relate to what Plato calls physical necessity? Moreover, how should one explain the movement and proper dynamic of the substrate?, and many more questions.⁷

These questions were also discussed in ancient commentaries on the *Timaeus*. To be honest, most later authors rejected this strange substrate with its own recalcitrant nature, and preferred an Aristotelian account of matter. They interpreted Plato's receptacle as merely a metaphor

⁵ *Tim.* 52 d 4–53 a 2 (trans. D. J. Zeyl): τὴν δὲ δὴ γενέσεως τιθήνην ὑγραινομένην καὶ πυρουμένην καὶ τὰς γῆς τε καὶ ἀέρος μορφὰς δεχομένην, καὶ ὅσα ἄλλα τούτοις πάθη συνέπεται πάσχουσιν, παντοδαπὴν μὲν ἰδεῖν φαίνεσθαι, διὰ δὲ τὸ μήθ' ὁμοίων δυνάμεων μήτε ἰσορροπῶν ἐπιμίπλασθαι κατ' οὐδὲν αὐτῆς ἰσορροπεῖν, ἀλλ' ἀνωμάλως πάντῃ ταλαντούμενην σείεσθαι μὲν ὑπ' ἐκείνων αὐτήν, κινουμένην δ' αὖ πάλιν ἐκείνα σείειν· τὰ δὲ κινούμενα ἄλλα ἄλλοσε αἰεὶ φέρεσθαι διακρινόμενα, ὥσπερ τὰ ὑπὸ τῶν πλοκάμων τε καὶ ὀργάνων τῶν περὶ τὴν τοῦ σίτου κάθαρσιν σείόμενα καὶ ἀνικνύμενα τὰ μὲν πυκνὰ καὶ βαρὲα ἄλλῃ, τὰ δὲ μαλὰ καὶ κοῦφα εἰς ἑτέραν ἵζειν φερόμενα ἔδραν.

⁶ *Tim.* 53 a 7–b 5 (trans. D. J. Zeyl): καὶ τὸ μὲν δὴ πρὸ τούτου πάντα ταῦτ' εἶχεν ἀλόγως καὶ ἀμέτρως· ὅτε δ' ἐπεχειρεῖτο κοσμεῖσθαι τὸ πᾶν, πῦρ πρῶτον καὶ ὕδωρ καὶ γῆν καὶ ἀέρα, ἵχνη μὲν ἔχοντα αὐτῶν ἅττα, παντάπασί γε μὴν διακείμενα ὥσπερ εἰκὸς ἔχειν ἅπαν ὅταν ἀπὴ τινος θεός, οὕτω δὴ τότε πεφυκότα ταῦτα πρῶτον διεσχηματίσαστο εἶδεσί τε καὶ ἀριθμοῖς.

⁷ See, e.g., the synthesis of discussions on these matters in Zeyl (2000) liv–lxvi; Miller (2003); Johansen (2004) 92–136.

that actually covered Aristotle's notion of ὕλη. But, as Richard Sorabji spells out, there were at least four important defenders of a literal reading of the Platonic receptacle: Syrianus, Proclus, Damascius and Simplicius.⁸ They linked the force of ἀνάγκη with the receptacle, which is not so far from Plato's intentions, and they saw it as the substrate underlying the material component of the hylemorphic unity. We shall have to come back to the reason why these thinkers remained true to the original Platonic view.

First, however, we should concentrate on Proclus' interpretation of the notion of ἀνάγκη.

II. *The many faces of necessity*

As we saw, in the *Timaeus* ἀνάγκη is presented as virtually identical with the substrate or receptacle. This of course does not exclude any other use of the word ἀνάγκη to indicate necessary outcomes or connexions. According to Damascius, Proclus distinguished three types of necessity: the divine necessity, which is sovereign and issued by the Good; material necessity, which is characterised by lack and weakness; and finally so-called aim-directed necessity, like for instance travelling by boat in order to trade.⁹

Of those three types, two are categorical whereas the third one is hypothetical ('if you want to trade, you will have to travel by boat', taking up an Aristotelian example). The categorical meanings both apply to ontological levels: divine¹⁰ versus material ἀνάγκη.

This threefold classification, however, contains two specific blanks. First, it is not an exhaustive rendering of all instances in which Proclus uses the word ἀνάγκη. Second, and more importantly, the notion of 'material ἀνάγκη' poses more problems than might appear at first sight.

Concerning the first blank, one should not fail to notice that the term ἀνάγκη often indicates other instances than those contained in

⁸ Sorabji (1988) 214–215.

⁹ Dam., *In Phil.* 17.1–3: "Ὅτι τριττὴ ἡ ἀνάγκη· ἥτοι γὰρ θεία, ἡ αὐτοτελὴς καὶ τῷ ἀγαθῷ κατηναγκασμένη, ἡ ὕλική, ἡ ἐνδεὴς καὶ ἀσθενεὶα σύνοικος, ἡ ὡς πρὸς τέλος, οἷον ὁ πλοῦς πρὸς ἐμπορίαν· οὕτω μὲν ὁ Πρόκλος.

¹⁰ θεία ἀνάγκη: e.g. *In Tim.* I 1.160.29; *In Parm.* V 1028.17 (referring to *Leg.* VII 818 b).

Damascius' list. It can refer, for instance, to the compulsive force of logic¹¹ or mathematics,¹² or the compulsion exercised by external forces, e.g. by a tyrant,¹³ or by circumstances that force us to do something contrary to our natural impulses.¹⁴ This means, I surmise, that Proclus *ap. Damascium* is not so much talking about the semantic field of the meanings of ἀνάγκη, but rather about its most pregnant meanings.

Concerning the second blank, it is striking that Proclus (in his extant works) actually seems to hesitate to take over the Platonic notion of ἀνάγκη as it is introduced in the *Timaeus*. Of course, he accepts the characteristics of this lowest level of reality, attributing to it the Platonic 'discordant movement' and describing it as the receptacle. But he seems to avoid to call this ἀνάγκη. At *Prov.* 13–14, where he explicitly discusses the *Timaeus* passage on necessity, Proclus interprets the ἀνάγκη as a synonym of εἰμαρμένη, which is the image of divine providence—whereby εἰμαρμένη governs the sensible world, and providence both the intelligible and the sensible world. The ἀνάγκη here is not the ἀνάγκη of the receptacle, but rather a necessity given by the gods. As a matter of fact, Proclus refuses to identify ὕλη (formed matter, that is) and ἀνάγκη (see *Theol. Plat.* V.31 114.3–4).

On the other hand, there are texts where Proclus does situate material ἀνάγκη in the substrate of demiurgic activity, which leads to the conclusion that there is an instance of ἀνάγκη that is not simply identical with εἰμαρμένη.¹⁵ This can also be inferred from the argument *ex absurdo* that the world would be led by mere chance (ἐκ ταῦτομάτου): in the absence of a cause, no order could ever exist, and the world, Proclus adds, would be driven by ἀνάγκη rather than by intelligent demiurgy.¹⁶ One may assume that this sets back ἀνάγκη in the receptacle.

Thus, there are at least as many faces of ἀνάγκη at the bottom of reality as there are at the top. In his commentary on the *Republic*, Proclus argues that all instances of ἀνάγκη must be reduced to one single origin: the Anankè, mother of the three Fates, who holds together the entire

¹¹ See, e.g., *In Parm.* IV 892.7; or *In Tim.* II 1.337.4–7 on the necessary qualities of the relation between model and image.

¹² Γεωμετρικὴ ἀνάγκη: *In Tim.* III 2.30.15.

¹³ *In Remp.* II 297.1.

¹⁴ *In Remp.* II 262.20.

¹⁵ *In Tim.* I 1.42.26.

¹⁶ *In Parm.* III 790.5–791.20 (cf. also *In Parm.* I 620.21–621.1 and V 1017.18–20); see also *Theol. Plat.* V.31 114.5–10, where ἀνάγκη is held responsible for the procession towards dimension and division.

universe under one single cause. Hence there is a series (σειρά) of all classes of ἀνάγκη from the top to the bottom of the universe.¹⁷ The point of all this seems to be that Proclus wants to avoid any dualistic reading of the *Timaeus* passage, which would consist in situating ‘true’ or ‘primordial’ ἀνάγκη at the bottom of the system.

III. *The dynamic of the substrate*

In his *Parmenides* commentary, as elsewhere,¹⁸ Proclus points out that nature contains immanent λόγοι that allow it to provide growth, birth, etc., bringing an order into nature so that it can fulfill its own natural operations—we might see this as a presence of natural laws. As can be expected, these immanent principles depend on a cause that contains them and understands them—whereas nature just puts them into action, without reason or imagination (ἄλογος καὶ ἀφάνταστος: *In Parm.* III 792.18). There must then be a higher principle in which the λόγοι are present as λόγοι (III 794.16–795.6). This higher intellectual principle is, of course, the demiurge, in whose intellect the eternal models are present.¹⁹ The demiurge will communicate these to the things he creates, but he has to operate with a pre-existing substrate that exhibits its own dynamic. This means that the demiurge shall have to impose order on the substrate, in order to contain it. But, on the other hand, this also means that the demiurge’s actions are equally dictated by the force of the substrate in its own right. Accordingly, the receptacle plays an important role in the organisation of the natural laws, by eliciting the legislation. The receptacle imposes its difficulties, which, as Plato says, must be contained by persuasion rather than by force. In this respect, it is the substrate that determines the powers needed to hold it under control. Thus, although it remains true that all order, and also the order of law in nature, must come from immaterial causes, the substrate that undergoes this causal force has its own role to play.

This is not to say, first, that the receptacle displays any activity whatsoever. It is rather to be seen as a force of passivity: its role consists in the effects it imposes on the activity of the νοῦς. As in rhetoric, or in all

¹⁷ *In Remp.* II 245.3–246.4; 269.15–270.13; 275.6–8.

¹⁸ Procl., *In Parm.* III 791.21–795.6; cf. *In Tim.* V 3.191.7–8 etc.

¹⁹ *In Parm.* III 821.6–14.

types of performing arts, the acts of the artist or the orator are dictated by the effect the work of art is intended to have on the audience—and the more difficult to grasp, or passive, the audience is, the more skilled shall the artist have to be. Hence, the audience does determine the operation of the artist, by being merely passive. This is the kind of passive dynamic that has to be looked for also—and *a fortiori*—in the case of the receptacle. It has to be controlled, not by force, Plato says, but by persuasion, persuasion implying at least a strategic compliance or concession to the stubborn nature of the subject.

A second qualification we have to keep in mind is that this dynamic of the lowest layer of reality does not entail any kind of dualism. As a dynamic, passive though it may be, it will equally be brought under a non-physical cause.

Returning to the passage from Damascius, *In Phil.*, we can state that the most fundamental characteristic of the ὑλικὴ ἀνάγκη consists in its deficiency and weakness (ἐνδεὴς καὶ ἀσθενεὶα σύννοικος). That is to say, it is first and foremost characterized by its receptivity (ἐπιτηδειότης) to the operation of the higher realms.²⁰ This notion of receptivity is a further elaboration of a concept that was already present in Aristotle. As a corollary to hylemorphism, Aristotle had stressed that not everything has a capacity to undergo any form whatsoever. With the imposition of form, the potency of matter is ever more driven in a certain direction, determining the receptivity to certain forms and excluding other ones. Within a Platonic context, this ἐπιτηδειότης was not limited to the potency of the material substrate in the hylemorphic unity, but extended to all possible situations in which something is undergoing the power of higher principles from the top of the system to the very bottom, even below the position of formed matter.²¹ It designates the eagerness of the lower to accept the order imposed on it from above.²²

In fact, the receptacle of the *Timaeus* is nothing else but ἐπιτηδειότης, as the very last stage of the procession of the universe. Without any determination it cannot be other than disordered and shapeless. In the absence of νοῦς, Proclus says, there can only be ἀταξία, referring this to the primal stage of the substrate of the *Timaeus* and to the myth of the *Statesman* (272 e 5 ff.), which describes a kind of inertia of the world

²⁰ Cf. Steel (1996) 121–135.

²¹ Cf. Plot., *Enn.* VI.4 [22] 15.1–3; Procl., *In Parm.* IV 842.29–843.25 (particularly 843.8–18); *Elem. Theol.* 79 74.24–26.

²² προκοπή: *In Tim.* II 1.387.30–388.1; ἔφεσις: *In Parm.* VI 1116.14–15.

when the god leaves it, whereby the world first conserves the impetus given to it, but eventually falls into sheer ἀταξία.²³

Despite this pure receptivity, however, there is something going on in this state of shapelessness: the disorder of the receptacle is a disorder *in movement*. And by this movement, as it is said in the *Timaeus*, it begets the traces of the forms (*Tim.* 53 b 2). At *In Eucl.* 89.2–7, Proclus explains why there can only be traces of higher principles in matter: the operation of lower principles (like body, dimensionality) are more evidently present in it, whereas the ‘simplest causes of being’, though certainly present, are less prominent. Thus, the substrate, called ὕλη in this passage, will only display traces of the forms, prefiguring the clear cut forms that will appear after the intervention of the Demiurge.²⁴

This substrate pre-existed before the demiurgy²⁵ (in principle, that is, not in a temporal order),²⁶ and the νοῦς of the demiurge will have to deal with its contumacious nature by persuasion. This model of mastery through persuasion is applied to all kinds of related situations, such as our personal strivings and behaviour²⁷ or the obedience of the third class in the state to the leaders,²⁸ whereby the taming of ἀνάγκη by νοῦς is interpreted metaphorically. Yet, ultimately, the most pure form of this relation of mastery over a substrate is set back in the receptacle of the demiurgic activity. In fact, like in the case of ἀνάγκη, we find a σειρά of this type of submission (δουλεία), which as a whole is placed under the divine mastery (δεσποτεία).²⁹ It is clear that in this σειρά the lowest stage represents the most difficult form of δεσποτεία and submission.

²³ *In Tim.* II 1.389.5–16.

²⁴ On a different level, this prefiguration of the forms returns in Proclus’ interpretation of place, which, according to Simplicius, Proclus saw as a kind of mould (τύπος: *In Phys.* 613.9; taken up by Damascius as προῦπογραφή: 645.7–10). It displays a prefiguration of the body that will occupy it, and is flexible enough to allow this body to be in different positions. Cf. Sorabji (1988) 208–209 and 214–215.

²⁵ See for instance *In Tim.* II 1.388.26–27; II 1.270.19–20.

²⁶ Cf. *In Tim.* II 1.283.30–285.7; 325.10–328.12; 383.22–387.5.

²⁷ *In Alc.* 134.19.

²⁸ *In Remp.* I 216.18–21.

²⁹ *In Parm.* IV 943.17–28 (esp. 20–26).

IV. *An accumulation of substrates*

The identification of the receptacle with ὕλη is not hazardous, although one should be aware of the subtleties of the doctrine. The receptacle is not ὕλη in a strict sense, *i.e.* the substratum of the forms in the hylemorphic unity. This hylemorphic ὕλη is formed already, being provided at least with quantitative (ποσόν) and qualitative (ποιόν) elements. The ὕλη of the receptacle must be taken in a broader sense, referring to the ultimate substratum, which lacks any determination. Yet, this bipartition of an ultimate substrate and the substrate of the forms is too simple as it stands. We must further differentiate between the different stages, and indeed the different substrates, that are accumulated in matter. Thus, for instance, Proclus qualifies the substrate as 'visible' (ὁρατόν), on the basis of textual evidence in the *Timaeus*. For indeed, Plato says at *Tim.* 30 a 2–6 that the Demiurge took 'all that was visible (πᾶν ὅσον ὁρατόν) but which was moving in a disorderly and discordant way (κινούμενον πλημμελῶς καὶ ἀτάκτως), and brought it to order.' So the substrate of the demiurgic activity is called 'visible' by Plato himself. In his commentary on this passage, Proclus notes that the ὁρατόν, also called σωματικόν (although the σῶμα as such will be produced by the Demiurge), is the bearer of the traces of elementary figures, announcing the formal distinctions (διάρθρωσις):

One could add to those things rightly said [by Proclus' predecessors] that, as the demiurgic production is twofold (the production of the corporeal and the ordering of the cosmos), Plato starts from the latter and supposes—entirely correctly—that the corporeal exists already, but that it moves in a discordant and disorderly way; for when the corporeal is on its own, it has a movement that is, as it were, blown into it by its nature. But it is a disordered movement, since, as long as it is on its own, the corporeal has not been endowed with intellect, nor animated by the intellectual soul. Once the universe becomes such, it partakes in the transcendent powers. Now, if the corporeal is in motion, that is, in motion by nature, not by the intellect or the intelligent soul, which produce order, it shall be in disordered motion. A bit further on, Plato will also provide us with an explanation of the production of the corporeal by the providence of the Demiurge: the Demiurge moulds the entire corporeal reality (which he is now said to 'receive'), himself being the maker, himself the organiser, himself the planner, himself the craftsman. If, then, he first produces the bodies, it is clear that the coming-to-be of the bodies is also part of the demiurgy, after the visible has received traces of the forms as forerunners of the distinction between them; once this distinction is accomplished,

each form is completely fashioned and gets its appropriate place and rank in the universe.³⁰

The same idea is expressed at *Theol. Plat.* V.17 63.7, where Proclus identifies τὸ ὁρατόν as ‘the disordered substrate of the bodies, which is ruled by vague traces of the forms.’ (τὸ ἀκόσμητον τῶν σωμάτων ὑποκείμενον ἴχνεσιν εἰδῶν ἀμυδροῖς κρατούμενον).

But which substrate is this? Is it the very first one, or must we introduce a distinction between the quantitatively determined substrate and the ultimate one? And where do the traces of the forms enter the stage?

An important text in this respect is *In Tim.* II 1.387.5–388.28, where Proclus, after a general explanation of the quoted lemma, turns towards a detailed analysis of the text. Here he states again that the substrate is corporeal (σωματικόν), referring not to matter, nor to what he calls the ‘second substrate’ (τὸ δεύτερον ὑποκείμενον), but rather to ‘the substratum that already partakes in the forms and displays traces and reflections (ἐμφάσεις) of them, moving in a discordant and disorderly way.’ (387.13–15). This text takes up what we knew already, but allows us to go some steps further. For our purposes it is important to know what exactly is meant by the ‘second substrate’ in this context, and to see precisely how the traces or reflections of the forms are brought about in the substrate.

Recent interpretations of this text have tried to solve the enormous complexities it entails. The most systematic one was produced by Frans

³⁰ *In Tim.* II 1.383.1–22: προσθείς δ’ ἂν τοῖς εἰρημένοις ὀρθῶς εἰρημένοις καὶ ὅτι διττῆς τῆς δημιουργικῆς οὔσης ποιήσεως, τῆς μὲν σωματουργικῆς, τῆς δὲ κοσμητικῆς, ἀπὸ ταύτης ὁ Πλάτων ἀρχόμενος εἶναι μὲν πάντα καὶ πάντως εἰκότως ὑποτίθεται πᾶν τὸ σωματικόν, πλημμελῶς δὲ καὶ ἀτάκτως κινούμενον, ὅσον γὰρ ἐφ’ ἐαυτῷ τοιοῦτον ὄν, κίνησιν μὲν ἔχον ὡς ὑπὸ φύσεως ἐμπνεόμενον, ἄτακτον δὲ κίνησιν, οὕτω γεγονὸς ἔνουν ὅσον ἐφ’ ἐαυτῷ καὶ ἐνυχωμένον ὑπὸ τῆς νοερᾶς ψυχῆς· ὅταν γὰρ τοιοῦτον γένηται τὸ πᾶν, τότε τῶν υπερφυῶν μετέχει δυνάμεων. εἰ δὲ κινήτων μὲν ὡς φύσει κινήτων, μὴ ὑπὸ νοῦ δὲ μηδὲ ὑπὸ ἔμφρονος ψυχῆς, ἀφ’ ἧς ἡ τάξις, ἄτακτον ποιήσει τὴν κίνησιν. ‘μικρὸν δὲ ὕστερον’ ἡμῖν ‘παραδώσει’ καὶ τὸ σωματουργικὸν τῆς δημιουργικῆς προνοίας· πλάττει γὰρ αὐτῷ πᾶν τὸ σωματικόν ὁ δημιουργός, ὃ νῦν παραλαβεῖν αὐτὸν φησιν, αὐτὸν ὄντα τὸν ποιητὴν, αὐτὸν τὸν κοσμητὴν, αὐτὸν τὸν τεχνίτην, αὐτὸν <τὸν> χειουργόν. εἰ οὖν καὶ σώματα παράγει τὰ πρῶτα, δῆλον δὴ, ὅτι μέρος ἐστὶ τῆς δημιουργίας καὶ ἡ ἐκείνου γένεσις, τοῦ ὁρατοῦ δεξαμένου τινὰ τῶν εἰδῶν ἴχνη πρόδρομα τῆς διαρθρώσεως αὐτῶν, ἧς γενομένης ἕκαστον κεκόσμηται τελῶς καὶ ἔχει θέσιν ἐν τῷ παντὶ καὶ τάξιν τὴν πρέπουσαν.

de Haas,³¹ who introduces many qualifications to the views of earlier scholars,³² exactly on the interpretation of the second substrate mentioned in the text. However, I believe that there is more to be added. We shall venture to interpret this text through a renewed reading of some other passages, the most important of which are to be found in the *Parmenides* commentary.

Before getting into these texts to some detail, however, it is important to recall that many of the terms we are about to encounter can refer to several levels in the gradual development of reality. As we have seen, the word ὕλη is used for the very first substrate, as well as for the material component of the hylemorphic unity. Likewise, it goes without mentioning that the term ‘second substrate’ implies the existence of a ‘first substrate’. As we shall see, we shall have to add even a third layer, bearing the ‘traces of the forms’, between the second substrate and the hylemorphic ὕλη. Moreover, the qualification of ‘discordant and disordered’, which we have discussed already, is also of this kind: it can apply to different stages, without Proclus’ mentioning that he is actually talking about different things.

Bearing this in mind, we can turn to a number of basic texts. In a famous passage of the sixth book of the *Parmenides* commentary, Proclus discusses the Phileban classes of πέρας and ἄπειρον, giving a survey of the different levels on which both principles occur throughout reality. The different orders (τάξεις) of ἀπειρία, he says, start off at the level of ὕλη, and have a second instance in what is called τὸ ἄποιον σῶμα. This is infinite in the sense that it is infinitely divisible, because it is the first thing having dimensions (πρῶτον διαστατόν). Thirdly, the unlimited occurs in the qualities (ποιότητες), since they are the first bearers of the more and the less (μᾶλλον καὶ ἥττον). Fourth, ἀπειρία is to be found in γένεσις, as the basis of the everlasting generation (ἀειγεννησία).³³ The

³¹ De Haas (1997) 91–99.

³² Festugière (1967a) 252 n. 1 (*ad In Tim.* II 1.387.13); Baltes (1978) 89–90.

³³ *In Parm.* VI 1119.4–22: Τὴν τοίνυν ἀπειρίαν, ἵνα κάτωθεν ποιησώμεθα τὴν ἀρχὴν, θεατέον μὲν καὶ ἐπὶ τῆς ὕλης, διότι ἀόριστος καθ’ αὐτὴν καὶ ἄμορφος καὶ ἀνείδεος, τὰ δὲ εἶδη καὶ αἱ μορφαὶ πέρατα τῆς ὕλης· θεατέον δὲ καὶ ἐπὶ τοῦ ἀποίου σώματος κατὰ τὴν διαίρεσιν· ἐπ’ ἄπειρον γὰρ τοῦτο πρῶτον διαιρετόν, ὅτε πρῶτον διαστατόν· θεατέον δὲ κατὰ τὰς περὶ τὸ ἄποιον πρώτας ὑφισταμένας ποιότητας, ἐν αἷς τὸ μᾶλλον ἐστὶ καὶ ἥττον πρώταις· τούτοις γὰρ καὶ ὁ ἐν Φιλήβῳ Σωκράτης ἐχαρακτήρισε τὸ ἄπειρον· θεατέον δὲ καὶ ἐπὶ πάσης τῆς γενέσεως· καὶ γὰρ αὕτη τὸ ἄπειρον ἔχει κατὰ τὴν ἀειγεννησίαν καὶ τὸν ταύτης ἄπαυστον κύκλον, καὶ κατὰ τὰς ἀορίστους τῶν γεννητικῶν ἐξαλλαγὰς γιγνομένων ἀεὶ καὶ φθειρομένων, ἐν οἷς καὶ ἡ κατὰ τὸ πλῆθος ἀπειρία τὴν γένεσιν ἔχει ἐν τῷ γίνεσθαι μόνον οὐσα, περὶ δὲ τὸ ὄν μηδέποτε οὐσα.

higher levels need not bother us here. Conversely, *πέρας* is discussed top-bottom, and its four last stages are important for our purposes. As the seventh instance of *πέρας*, Proclus mentions the permanence of all things, guaranteed by the *ἔνυλα εἶδη*. The eighth stage concerns all quantity, as it appears typically (*ιδίως*) in material things—by which Proclus seems to mean the amount of material out of which a body is made. Ninth comes the *ἄποιον σῶμα* again, which is limit because it cannot be unlimited in mass (*κατὰ μέγεθος*), its extension is the extension of the universe, which is not unlimited. Finally, the tenth level of *πέρας* is occupied by the *ἔνυλον εἶδος* itself (and not its binding or safeguarding power mentioned at the seventh level), in the combination of matter and form, which, Proclus adds, is taken by some to be the only instance of *πέρας* and *ἄπειρον*—the reference to the Aristotelian explanation is obvious.³⁴

What should interest us most in our present investigation is the mentioning of the unqualified body in the series of both the limit and the unlimited. Frans de Haas convincingly argued that this refers to the three-dimensional substrate of elementary qualities (as it is presented by Syrianus),³⁵ to be situated immediately above prime matter, on a level below what he calls ‘Chaos’,³⁶ meaning the disorderly movement of the thing that bears the traces of the forms. It is exactly to this *ἄποιον σῶμα* that the passage from the *Timaeus* commentary refers, by calling it the ‘second substrate’.³⁷

I am very grateful to my Leuven colleagues for allowing me to quote the text and critical apparatus from their forthcoming edition of Proclus’ *In Parm.* (see Steel [2007a] and [2008]).

³⁴ *In Parm.* VI 1122.35–1123.18: “Ἐβδομον ἡ ἀνέκλειπτος τῶν εἰδῶν ὑπόστασις, τῶν ἐνύλων λέγω, καὶ τῷ μὴδὲν τῶν ὅλων ἀπολλύσθαι, καὶ τῷ πάντα ὀρίσθαι, τὰ μὲν γὰρ καθ’ ἕκαστα τοῖς κοινοῖς, τὰ δὲ μέρη τοῖς ὅλοις, δείκνυσιν τὴν ἐνταῦθα τοῦ πέρατος πρὸς τὸ ἄπειρον ἀντίθεσιν· ἀπειραχῶς γὰρ ἐξαλλαττομένων τῶν γεννητῶν, ὅμως ὀρίσται τὰ εἶδη καὶ τὰ αὐτὰ διαμένει, μῆτε πλείω μῆτε ἐλάττω γιγνόμενα. Ὅγδοον καλείσθω πέρας τὸ ποσὸν πᾶν ἰδίως ἐν τοῖς ὕλικοις, καθάπερ τὸ ποιὸν ἐλέγετο πρότερον ἄπειρον· οὐ γὰρ ἐπιδέχεται τὸ μᾶλλον καὶ ἥττον, ὥς ἐν Φιλήβῳ λέγει Σωκράτης. Ἐννατον <τὸ> ἄποιον σῶμα ὡς ὅλον πέρας ἐστίν· οὐ γὰρ ἐστὶ κατὰ μέγεθος ἄπειρον, ἀλλὰ τοσοῦτον ὅσον τὸ πᾶν· δεῖ γὰρ ὅλον ὑποκείμενον αὐτὸ λέγεσθαι τοῦ παντός. Δέκατον αὐτὸ τὸ ἐνυλον εἶδος, ὃ κατέχει τὴν ὕλην καὶ περιορίζει τὸ ἀόριστον αὐτῆς καὶ ἄμορφον, εἰς ὃ καὶ ἀπιδόντες τινὲς μόνον, εἰς ὕλην καὶ εἶδος ἀνάγουσι τὸ τε πέρας καὶ ἄπειρον (forthcoming ed. Steel).

³⁵ Syr., *In Metaph.* 49.8–17 (*ad* III.5 1001 b 28–29).

³⁶ It might be misleading to name this level ‘Chaos’: the word Chaos, as an Orphic notion, is always used by Proclus to indicate the highest ἀπειρία, not the lowest one.

³⁷ De Haas (1997) 95, with reference to his own p. 14–17 (if my interpretation of ‘III.2’ in n.144 is correct). See also the scheme in De Haas (1997) 98.

In a passage taken from the second book of the *Parmenides* commentary, in the context of a discussion of likeness and unlikeness (ὁμοιότης and ἀνομοιότης), Proclus gives an interesting explanation of what he calls the ἄποιον ὑποκείμενον τῶν σωμάτων:

Since, then, there are these forms of intermediate rank between the most universal and the most specific existence on that level [*the most universal forms being those that are participated by all beings, the most specific those that are participated by individuals*], let us put with them likeness and unlikeness, which are the subject of our present consideration. For they are not restricted to one species only, such as man or horse, but have a place in all things that are qualified, and they are not found in all beings whatsoever. Consider that qualityless substratum of bodies which is the first thing having dimensions, between matter and the numerous forms; you will find that it also has being and form and otherness and identity. How could it be, without being? How could it have three dimensions without diversity? And how could it hold together without identity? But likeness and unlikeness are not in it, for it is without qualities; these are found in things already qualified. It is true that it has motion and rest—motion because it is in constant change, and rest since it never goes outside its appropriate receptacle—but has no differentiating qualities or powers (trans. Morrow and Dillon, modified).³⁸

Thus, the qualityless substrate of bodies is situated between ὕλη and the many different forms, as the πρώτως διαστατόν (*In Parm.* II 735.25)—this is a textual emendation of particular interest: the reading διαστατόν is only present in the Latin translation by Moerbeke (some of the Greek manuscripts have a blank), but it makes a very close parallel to what we read in the passage on the different orders of ἀπειρία (where the ἄποιον σῶμα was labelled πρώτον διαστατόν: *In Parm.* VI 1119.9–10), so this certainly is the better reading. This substrate, Proclus says, has a number of characteristics, while lacking some important ones: it has

³⁸ *In Parm.* II 735.18–736.6: Τούτων τοίνυν τῶν μέσων εἰδῶν τῆς τε τῶν γενικωτάτων ἐκεῖ καὶ τῆς τῶν ἀτομωτάτων ὡς ἐν ἐκείνοις ὑποστάσεως, καὶ τὴν ὁμοιότητα θετέον καὶ τὴν ἀνομοιότητα, περὶ ὧν ὁ παρὼν ἡμῖν ἐστὶ λόγος· οὔτε γὰρ ἐφ' ἐνὸς εἶδους πάρεστι ταῦτα μόνον, οἷον ἀνθρώπου λέγω ἢ ἵππου, ἀλλὰ διὰ πάντων χωρεῖ ταῦτα τῶν πεποιωμένων [πεποιωμένων *scripsi*: πεποιημένων Steel]· οὔτε ἐπὶ πάντων θεωρεῖται τῶν ὁπωσοῦν ὄντων· εἰ γὰρ λάβοις αὐτὸ καθ' αὐτὸ τὸ ἄποιον ἐκεῖνο τῶν σωμάτων ὑποκείμενον, ὃ μεταξὺ τῆς ὕλης ἐστὶ καὶ τῶν εἰδῶν τῶν πολλῶν πρώτως <διαστατόν>, εὐρήσεις αὐτὸ καὶ οὐσίαν ἔχον καὶ εἶδος καὶ ἑτερότητα καὶ ταυτότητα. Πῶς γὰρ ἂν εἴη χωρὶς οὐσίας; πῶς δὲ τρεῖς διαστάσεις χωρὶς διαιρέσεως; πῶς δὲ συνέχοι ταυτότητος χωρίς; Ἄλλ' ὁμοιότης ἐκεῖ καὶ ἀνομοιότης οὐκ ἐστίν· ἄποιον γὰρ ἐστὶ, ταῦτα δὲ ἐν τοῖς ἤδη πεποιωμένοις· ἐπεὶ καὶ κίνησιν ἔχει καὶ στάσιν, ὡς μὲν γιγνόμενον ἀεὶ, κίνησιν, ὡς δὲ μὴ ἐξιστάμενον τῆς οἰκείας ὑποδοχῆς, στάσιν· ποιότητων δὲ καὶ δυνάμεων διαφορουσῶν ἄμοιρόν ἐστιν.

οὐσία, εἶδος,³⁹ ἑτέροτης and ταυτότης, and it has κίνησις and στάσις. These are exactly the five μέγιστα γένη introduced in the *Sophist* (248 a 4–256 e 5), and which are characteristics of anything that can be called ‘being’, from the top of the universe down to the bottom. What the substrate lacks, is ὁμοιότης and ἀνομοιότης, just because it is unqualified, and those characteristics are exclusively bound to things that have quality. The ἑτερότης mentioned is explicitly linked to this substrate’s having three dimensions (διαστάσεις), whereas the ταυτότης is constitutive for its continuity (συνέχεια). What we find in this passage, then, is a substrate of bodies, without any quality, but with quantity; on this basis, we may identify it with corporeal mass (ὄγκος), as presented in a passage from the second book of the *Timaeus* commentary, where the ‘corporeal life’ presupposes the existence of bodily masses which serve as a substrate to the formation of bodies.⁴⁰

This indeterminate substrate is identical with the ‘discordant and disorderly moving thing’ (*Tim.* 30 a 4–5) and the ‘shaken’ receptacle (*Tim.* 52 d 2–53 b 5).

This is not to say that the indeterminate substrate is identical with ἀνάγκη. In the fifth book of the *Platonic Theology*, Proclus contrasts the operation of νοῦς and ἀνάγκη, resisting an identification of ἀνάγκη with ὕλη—ὕλη being the material substrate of the forms here, not the very first substrate—and says that ἀνάγκη causes ‘the procession that ends up in dimension and division’ (τὴν εἰς διάστασιν καὶ μερισμὸν ἀποτελευντῶσαν πρόοδον).⁴¹ Thus, the πλημμελῶς καὶ ἀτάκτως κινούμενον is linked to division and the three dimensions, and situated in between formed matter and ἀνάγκη.

Thus, at the very bottom of nature, below the ‘second substrate’, we find pure ἀνάγκη. It is devoid not only of form, quality (because of the lack of ὁμοιότης/ἀνομοιότης), and of quantity (because of the lack of ἑτερότης/ταυτότης), but it is also devoid of κίνησις/στάσις. In itself, this

³⁹ This qualification is strange, since at this stage, the forms are not yet present in the substrate. The wording is taken over from *Tim.* 51 a 7 (ἀνόρατον εἶδος τι καὶ ἄμορφον, πανδεχές), where εἶδος is used in a very loose sense; see also *Tim.* 48 a 7–8 (τὸ τῆς πλανωμένης εἶδος αἰτίας).

⁴⁰ In *Tim.* III 2.140.24–30: ὥστε τριπλὴν ζωὴν ἔχει τὸ πᾶν, τὴν σωματοειδῆ, τὴν ψυχικὴν, τὴν νοερὰν. καὶ ἡ μὲν νοερὰ ἀμεριστός ἐστιν, ὡς αἰώνιος, ὡς ὁμοῦ πᾶν περιλαβούσα τὸ νοητόν, ὡς ἀκίνητος, ὡς ἡνωμένη κατ’ ἄκραν ὑπεροχὴν τῶν δευτέρων· ἡ δὲ σωματοειδὴς μεριστή, ὡς προϊούσα περὶ τοὺς ὄγκους καὶ συνανακριναμένη τῷ σώματι καὶ δύνουσα κατὰ τῶν ὑποκειμένων.

⁴¹ *Theol. Plat.* V.31 114.1–10.

substrate is nothing but ἀπειρία or ἀοριστία. This is clear, for instance, from *In Tim.* II 1.385.17–386.8, where the last and lowest ἀπειρία, ‘by which’, says Proclus, ‘also matter is contained’, is described as a gap (χάσμα), purely ἄστατος, ἄπειρος, ἀόριστος and continuous darkness.

The same is made even clearer at *In Tim.* II 1.325.10–328.12, where Proclus stresses the difference Plato makes between ὄν, χώρα and γένεσις at *Tim.* 52 d 3. In a reaction against those, like Plutarch and Atticus, who maintained that the disordered thing before the cosmic order is unengendered (ἀγένητον), Proclus points out that according to Plato himself, there was something γενητόν before the cosmos. This cannot refer to τὸ αἰεὶ ὄν, for obvious reasons, nor to the χώρα—and hence, the γένεσις must refer to ‘the famous disordered thing’ (τὸ θρυλούμενον τὸ πλημμελές), which moved in a discordant and disorderly way (326.7–9). From this text we learn, not only that there is a difference between τὸ πλημμελῶς καὶ ἀτάκτως κινούμενον and χώρα, but also that the γένεσις is due to the disordered movement that takes place in this χώρα.

After this descent into the lowest constituents of the universe, we should now step back, and confront a question I have avoided thus far: where are the ‘traces of the forms’ to be situated? In most cases where he discusses those traces of the forms, Proclus is not very precise. He just refers to them as present in the substrate with which the Demiurge will be dealing. But when he is precise, he allows us to attribute an exact place to the ἵχνη τῶν εἰδῶν in the layers we have been discussing. It is in the discussion of πᾶν ὅσον ὁρατόν which we have been referring to, that Proclus provides us with the clearest clues.⁴² He presents the ὁρατόν as certainly not without σῶμα nor without ποιότης—a statement that brings us to a level that is higher than the ἄποιον σῶμα. Moreover, we know from *In Parm.* II that the unqualified body lacks τὸ ὅμοιον καὶ ἀνόμοιον, whereas the traces of the forms belong to that which has been qualified.⁴³ Thus, the ὁρατόν, to which the traces of the forms are attributed, must be situated at a level where ποιότης (ὁμοιότης and ἀνομοιότης) has become present. Hence, this level, above the ἄποιον σῶμα, constitutes a kind of third ὑποκείμενον, being the direct substrate of the Demiurge’s operation, and it is understandable that Proclus refers to it as ‘discordant and disordered’ (πλημμελές καὶ ἄτακτον), as is the case at *In Tim.* II 1.387.13–14. As the final stage of absence

⁴² *In Tim.* II 1.383.1–22, quoted above (see n. 30).

⁴³ *In Parm.* II 735.18–736.6, quoted above (see n. 38).

of order; it receives this denomination in a pregnant sense—although, as we have seen, it had this property of disorderly motion at a much earlier stage already. This substrate of the demiurgy encompasses all different aspects from the previous substrates: a recalcitrant nature, disordered movement, corporeal mass, and adds one more of its own: its being qualified and prepared for the forms, ‘reaching out to having a share in the forms’.⁴⁴

After this stage, if we now continue our upward movement, the forms make their first appearance, as the elements, followed by the other ἔνυλα εἶδη or φυσικοὶ λόγοι, constituting the hylemorphic unity à la Aristotle. Thus, Aristotelian matter (formed matter, that is) is preceded by many Platonic stages at which the initial substrate is gradually prepared to undergo the forms. I have brought all these levels together in a scheme reproduced as an appendix to this article. We never find all those levels spelled out, but Proclus hints at them in various combinations at different places.

V. *Matter and theology—a theological matter*

How do these stages of the material substrate come about? One of the main issues in the second book of Proclus’ *Commentary on the Timaeus* is the question of whether matter is engendered or not. Over against the Middle Platonists Plutarch and Atticus, and also Aristotle, Proclus maintains that matter is created by non-physical causes, which all act conjointly, so that this creation is not to be situated in time or in a chronological series of events, but rather that it takes place in principle, *i.e.*, on the basis of the ever-operative status of the principles. Hence, one can investigate the order of the different principles, as different causes of material existence. In the fourth book of the *Parmenides* commentary, Proclus gives an important clue concerning this question, in a very interesting passage:

What is the source of this receptivity and how does it come about? This is the next question to be considered. Shall we not say that it comes from the paternal and creative cause? The whole of nature that is subject to the demiurgy was produced, if we may rely upon those who are expert in divine matters, by the intelligible Father, whoever this is. Upon this

⁴⁴ Procl., *In Tim.* II 1.387.30–388.1.

nature another Father who is also Creator cast reflections; and the Creator who is also a Father ordered it as a whole; and the Creator alone filled it up by means of his particularised craftsmanship. From these four causes appears first the matter which is prior to all form-giving activity, described in the *Timaeus* (51 a) as a shapeless kind which is a universal receptacle; second, something that has received traces of the forms but is disordered and inharmonious; third, the cosmos as a whole, composed of wholes in accordance with the unique and universal paradigm; and last the cosmos that ‘teems with all the living beings in it, and that receives all immortals and mortals’, whereby different causes have constituted them prior to the cosmos as a whole (trans. Morrow and Dillon, modified).⁴⁵

We have seen that in the Platonic universe, all things are caused by immaterial principles. This holds true also for the levels we discerned at the bottom of the system. It is clear, however, that those levels are not brought about by the demiurge—his territory, so to speak, stops at the level of hylemorphic unities—and it is a matter of fact (to Platonists, at least) that the demiurge had to operate in a pre-existing substrate. So where do those levels come from? Proclus’ explanation consists in a hierarchy of causes, in which the highest has the widest range. Thus, as Proclus explains in the present text, matter, *i.e.*, the receptacle and shapeless kind, is brought about by the first of four causes: the ‘Father alone’. Next, the ‘Father and Creator’ causes the disordered and inharmonious bearer of the traces of the forms. It is followed by the ‘Creator and Father’, causing the entire universe to the likeness of the Eternal Model. Finally, the ‘Creator alone’ creates the cosmos with all specific beings.

From *Platonic Theology* V, ch. 16, we can learn a further specification of these Fathers and Creators. The first Father, Proclus says, is to be situated in the first intelligible triad (V.16 55.14–15), heading all classes

⁴⁵ *In Parm.* IV 844.11–26: Πόθεν δὴ οὖν ταύτην καὶ πῶς ἐγγενομένη—τοῦτο γὰρ ἐξῆς ἐπισκεπτέον—ἢ ἀπὸ τῆς πατρικῆς αἰτίας καὶ ποιητικῆς φήσομεν; πᾶσαν γὰρ τὴν ὑποκειμένην τῇ δημιουργίᾳ φύσιν, ἵνα τοῖς τὰ θεῖα σοφοῖς ἐπαναπαύσωμεν τὸν λόγον, παρήγαγε μὲν ὁ πατὴρ ὁ νοητὸς, ὅστις ποτὲ οὐτός ἐστιν, ἐμφάσεις δὲ εἰς αὐτὴν κατέπεμψε ἄλλος πατὴρ ἅμα καὶ ποιητὴς, ὁλικῶς δὲ ἐκόσμησεν ὁ ποιητὴς ἔμπαλιν καὶ πατὴρ, συνεπλήρωσε δὲ διὰ τῆς μεριστῆς δημιουργίας ὁ ποιητὴς μόνον. Καὶ διὰ ταύτας τὰς τέτταρας αἰτίας, ἄλλη μὲν ἢ πρὸ πάσης εἰδοποιίας ὕλη πανδεχέει τι οὐσα καὶ ἄμορφον εἶδος κατὰ τὸν Τίμαιον, ἄλλο δὲ τὸ δεξάμενον τὰ ἴχνη τῶν εἰδῶν καὶ πλημμελὲς καὶ ἄτακτον, ἄλλος δὲ ὁ ὅλος κόσμος καὶ ἐξ ὅλων ὑποστάς πρὸς τὸ παντελὲς παράδειγμα καὶ μονογενές, ἄλλος δὲ ὁ ἐκ πάντων συμπεπληρωμένος τῶν ἐν αὐτῷ ζῶων, καὶ πάντα <ἀθάνατά> τε καὶ θνητὰ λαβών, διαφόρων ὑποστησάντων ταῦτα πρὸ τοῦ κόσμου παντὸς αἰτίων.

of being. This triad of the first ἐν ὧν is the first genuinely causal principle in the universe, as the One itself transcends the intelligible realm and remains ineffable and unknowable. Hence, it is the first Father who communicates the unity and goodness of the One to the entire class of beings (55.8–13). The creative element occurs for the first time in the third intelligible triad, where the forms make their first appearance (55.15–19). Therefore, the ‘Father and Creator’ refers to this third class of νοητά, which Proclus identifies with παντελὲς ζῶον in the *Timaeus* (31 b 1), and which consists in the eternal Model that shall be the reference point for the demiurge’s ordering of the lower realms.⁴⁶ The third one, then, the ‘Creator and Father’, is said to cause the cosmos as a whole, to the likeness of the Model. According to *Platonic Theology* V.16, this Creator and Father is the demiurgic monad, i.e., the demiurge in his highest manifestation, heading the demiurgic triad.⁴⁷ The demiurgic monad is the proper and typical mode of existence of the platonic demiurge, who in the *Timaeus* refers to himself as ‘Creator and Father’ (*Tim.* 28 c 3–4; 41 a 7–8).⁴⁸ He is characterised as ‘intellect’, and occupies the third level of intellectual beings: the intellectual intellect.⁴⁹ Finally, the ‘Creator alone’ refers to the constitution of the forms (εἰδοποιία: *Theol. Plat.* V.16 54.5), which is a task operated by the young gods. They create the world as a divided and mortal nature (53.5–16). From *Theol. Plat.* V.13 42.6–13 and *In Tim.* II 1.310.16–18, we learn that this demiurgy proceeds in three phases: after the universal creation of the wholes (τῶν ὅλων ὀλικῶς) by the demiurgic monad, the first term of the demiurgic triad creates the parts, in a universal way (τῶν μερῶν ὀλικῶς), the second creates the wholes in a partial way (τῶν ὅλων μερικῶς), and the third creates the parts in a partial way (τῶν μερῶν μερικῶς).⁵⁰ Thus, the gradual development of demiurgy leads to an ever growing particularisation and multiplicity of beings. This explains why this ‘Creator alone’ is referred to as ‘particularised demiurgy’ (μεριστὴ δημιουργία) in the text quoted from *In Parm.* IV.

⁴⁶ On this Model: cf. *In Tim.* II 1.321.2–327.10 and *Theol. Plat.* V.14 45.21–47.13. At *Theol. Plat.* III.15 52.23–54.20, the παντελὲς ζῶον is also identified as the Model, and as the third intelligible triad, i.e., the intelligible intellect. Cf. also *In Tim.* II 1.453.3–14.

⁴⁷ Cf. *In Tim.* II 1.310.15–311.1.

⁴⁸ See *Theol. Plat.* V.16 57.15–58.2. Cf. Opsomer (2006a) 267–268.

⁴⁹ *Theol. Plat.* V.12 41.19–42.4; V.16 56.13–15.

⁵⁰ Cf. Opsomer (2000) 119–123.

Proclus carefully reads these causative principles into the *Timaeus*, pointing at a threefold structure of the Good, the model, and the demiurge. Plato's characterisation of the demiurge as 'good' (ἀγαθός: *Tim.* 29 e 1) means, or so Proclus maintains, that the demiurge himself undergoes the operation of the Good, but that the reach of the Good as a principle goes far beyond the powers of the demiurge himself. The ἀγαθόν is the final cause of the entire universe, revealing the ineffable principle within the first intelligible being. This entails that the causal force of the Good reaches down to the bottom, where all other causes have lost their forces. Next, the Model (*Tim.* 28 c–29 a) is the paradigmatic cause, which has a narrower extension than the ἀγαθόν, but still surpasses the demiurge. Finally, the demiurge (or to be precise, the demiurgic intellect) is the efficient cause.⁵¹ Thus, the tripartition Good-Model-demiurge/intellect is coextensive with the three Fathers (Father, Father and Creator, Creator and Father). This is confirmed at *In Tim.* II 1.387.25–30, where Proclus points out that the ἀγαθόν is the cause of matter, of εἰδοποιία and of τάξις alike, whereas the Model is the cause of εἰδοποιία and of τάξις, and the demiurge is the cause solely of τάξις.

How do those causes act on lower reality? Proclus remarks that they all operate by their causal nature, acting upon the receptivity of the lower:

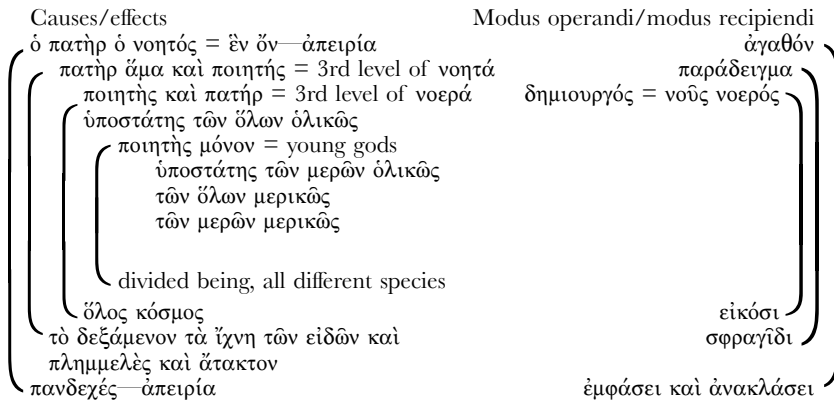
But what these causes are we must learn from the family of the theologians. We ought not then to wonder whence come these various aptitudes. For the things in this world that appear to be more imperfect are the products of more sovereign powers in the intellectual world that because of their indescribable plenitude of being are able to penetrate to the lowest grades of existence, and the things here imitate in the indefiniteness of their own lowered status the ineffable being of those higher powers. The substratum therefore bears their reflections, I mean the one substratum as well as the many and diverse kinds of receptivity by which the things here are disposed towards desire of the forms, and by the rich plenitude of the demiurgic reason-principles and their texture, the substratum came to receive the visible cosmos and to participate in the whole process of creation (trans. Morrow and Dillon, modified).⁵²

⁵¹ *In Tim.* II 1.368.15–29; cf. 1.361.20–26.

⁵² *In Parm.* IV 844.27–845.12: ἀλλὰ τίνα μὲν τὰ αἷτια ταῦτα, θεολόγων διδάσκουσι παῖδες, καὶ διὰ ταῦτα ἄρα οὐ δεῖ σε θαυμάζειν πόθεν αἱ διάφοροι ἐπιτηδειότητες· τὰ γὰρ ἐνταῦθα δοκοῦντα εἶναι ἀτελέστερα τῶν ἀρχικωτέρων ἐστὶ δυνάμεων ἐν ἐκείνοις ἀποτελέσματα, διὰ τὴν ἐκείνων ἀπερίγραφον περιουσίαν ἄχρι καὶ τῶν τελευταίων προΐεναι δυνάμενων, καὶ τῷ ἀορίστῳ τῆς αὐτῶν ὑφέσεως μιμεῖται τὴν ἐκείνων

From the sequel of this passage, we learn that the interaction between the principle and the recipient differs according to the nature of the agent and the receptivity of the corresponding level. The power of the good is received as if by reflections in a mirror (ἐμφάσει καὶ ἀνακλάσει), whereas the Model operates by means of a seal (σφραγίδι), printing the traces of the forms in the receptacle, and the demiurge proceeds by means of images (εἰκόσι).⁵³

This can be summarized in the following scheme:⁵⁴



Two additions should be made to this overall scheme, which is consistent throughout all texts in which Proclus deals with these issues. First of all, it is striking that in this account, no mention is made of any intermediary level between the πανδεχέες and the substratum that displays the traces of the forms. Yet from the texts which we discussed higher on, we have learnt that Proclus explicitly distinguishes the second substrate from the first, while on the other hand stating that the second substrate is not yet qualified, thus distinguishing it from the level of the traces of the forms. How to explain this absence? It cannot be a slip of the tongue, as the system is too consistent to allow for this kind of

ἄρρητον ὑπαρξιν· ἐκείνων δ' οὖν ἔχει τὰς ἐμφάσεις τὸ ὑποκείμενον, τό τε ἐν λέγω καὶ τὰς πολλὰς καὶ διαφόρους ἐπιτηδειότητας, ἀφ' ὧν εἰς ἔφεσιν καθίσταται [καθίσταται sc̄ripsi: καθιστάμενα AS constituta g καθιστάμενον Steel] τῶν εἰδῶν, καὶ ἀπὸ [ἀπὸ sc̄ripsi: τὸ codd. del. Steel] τῆς ὑποπληρώσεως τῶν δημιουργικῶν λόγων καὶ τῆς τοιαύτης συμπλοκῆς τὸν ἐμφανῆ κόσμον ὑπεδέξατο καὶ τῆς ὅλης μετέσχε ποιήσεως.

⁵³ In *Parm.* IV 845.20–846.17.

⁵⁴ See also the scheme in Opsomer (2000) 131–132, who adds many more details on the different stages of demiurgy in this hierarchical order.

oblivion, and, moreover, this second substrate is discussed precisely in a context where the main lines of this scheme have been presented (*In Tim.* II 1.387.5–388.28). This means, I take it, that Proclus subsumes the ‘second substrate’ under the causative power of the first Father, who produces the layer that precedes all εἰδοποιία. As the (traces of the) forms will appear only after the stage of the unqualified body (or second substrate), Proclus may not have felt the need to specify that this ‘layer before the εἰδοποιία’ includes the second substrate. Second, and more importantly, this scheme should be completed by pointing out the specific position of the highest and the lowest level. It is well known that Proclus claims that all levels of reality are constituted by a combination of πέρας and ἄπειρον, both principles having their proper σειρά (as e.g. in *In Parm.* VI 1119–1123 which we discussed before). Thus, all the stages we have run through are phases of πέρας and ἄπειρον. Everywhere you look, you find a combination of those two on the same level. As could be expected, this is the case in the scheme we reconstructed. One will have noticed, however, that this scheme does not reach until the highest, Ineffable principle. Does not this principle have a role to play in the causation of the universe? As Proclus explains at *In Tim.* II 1.384.22–385.17, matter should be called mere ἀπειρία, caused by the ἀπειρία which the God constituted at the top of the intelligible world (ἐν τῇ ἀκρότητι τῶν νοητῶν: 385.9–11), just as any πέρας in this world is the reflection of the primordial πέρας. Combined with the primordial ἀπειρία, this πέρας brings about the first μικτόν (i.e., the first ἐν ὄν), in which the two opposite principles reappear as the constituents of the mixture.⁵⁵ Yet, although the two primordial principles are brought about at the same level, the ἀπειρία appears to have a broader range than πέρας. In the discussion of the different stages of πέρας and ἄπειρον, the series of ἄπειρον goes down one stage below the last stage of πέρας: the first ἄπειρον that is mentioned (at *In Parm.* VI 1119.4–8) is entirely devoid of πέρας, and accordingly, it does not have an equivalent in the series of the latter. This may be so for a particular reason. As Proclus explains at *In Parm.* VI 1123.22–1124.37, the ineffable One transcends the opposition of πέρας and ἀπειρία, being ἄπειρον in a higher sense than the ἀπειρία opposed to πέρας.⁵⁶ At the bottom we find a reverse copy of this struc-

⁵⁵ *Theol. Plat.* III.10 41.20–22.

⁵⁶ See also *In Tim.* II 1.386.7.

ture, in which the ἀπειρία of the first substrate is void of all πέρας. This primordial ἀπειρία is also referred to at *In Tim.* II 1.385.12–14, where Proclus states that matter is brought about by the One and by the ἀπειρία that precedes the One Being. At the same time, matter is brought about by the One Being, in so far as it is in potency.⁵⁷ Thus, the potentiality of matter is the effect of the causal force of the ἐν ὄν (which contains ἀπειρία), whereas its sheer indeterminacy reflects the ἀπειρία beyond the first intelligible being.⁵⁸

In this way, Proclus widens the analysis of the *Timaeus*, and brings in a number of qualifications from what he sees as the theological speculations of Plato. In Proclus' eyes, the introduction of those elements is entirely legitimate: given the ontological order in which the lower displays a weak reflection of the higher, one is entitled (and even obliged) to transpose the Platonic characterisation of higher reality to the lowest stages, while reversing the order and stressing the decrease of generative powers. Thus, as one can deduce from the scheme in the appendix to this article, the hermeneutics of the *Timaeus* requires the introduction of essential extra elements from other dialogues, without which the hierarchical structure of the material substrates cannot be argued for.⁵⁹ The most important additions to the *Timaeus* are the μέγιστα γένη from the *Sophist*, the couple of πέρας and ἄπειρον from the *Philebus*, the criticism of Parmenidian monism in the *Sophist* (244 b–245 e), where it is explicitly stated that a whole must be of a certain quantity (ποσόν, 245 d 8–10, a statement which is not made in the *Timaeus*), and, above all, the hypotheses in the *Parmenides*. According to Proclus'

⁵⁷ *In Tim.* II 1.385.12–14: κατ' αὐτὸν ἡ ὕλη πρόεισιν ἔκ τε τοῦ ἐνὸς καὶ ἐκ τῆς ἀπειρίας τῆς πρὸ τοῦ ἐνὸς ὄντος, εἰ δὲ βούλει, καὶ ἀπὸ τοῦ ἐνὸς ὄντος, καθόσον ἐστὶ δυνάμει ὄν.

⁵⁸ Another text sustaining this inference is *In Tim.* II 1.256.13–30, where Proclus opposes τὸ αἰὲ ὄν to τὸ γινόμενον. The γινόμενον includes all that is moved πλημμελῶς καὶ ἀτάκτως (i.e., the one but lowest stage we discussed). Significantly, Proclus adds that that which partakes in neither ὄν nor γινόμενον is situated beyond the two. This can only refer to matter (the first substrate) below the γινόμενον, and to the One, beyond τὸ ὄν.

⁵⁹ In this respect, there seems to be no doctrinal difference at all between *In Parmenidem* and *In Timaeum*. Marinus, Proclus' biographer, indicates that Proclus had completed a commentary on the *Timaeus* at the age of 27 (*Procl.* 13.10–17). This means either that Proclus had fixed his final interpretation of Plato's *Timaeus* before his 28th birthday, or that Marinus refers only to an earlier version of the commentary, which was reworked later on. See Saffrey and Segonds (2001) 16 n. 12 (p. 112 of the notes complémentaires). Although the question cannot be settled, it seems likely that Proclus continued to work on his commentary, thus smoothing away traces of doctrinal evolution.

interpretation, the first hypothesis (*Parm.* 137 c 4–142 a 8) discusses the One, in a negative way; the second (142 b 1–155 e 3) reveals the stages of divine being, below the One, the third (155 e 4–157 b 5) is about the soul, the fourth (157 b 6–159 b 1) about the enmattered forms, and the fifth hypothesis (159 b 2–160 b 4) discusses matter (the first substrate, that is).⁶⁰ On the basis of this overall interpretation, Proclus uses the terms of the second hypothesis to describe the characteristics of its lower analogon (formed matter), and reaffirms the negations of the fifth hypothesis, when talking about the first substrate: he denies it *ὁμοιότης* and *ἀνομοιότης*, *ἐτερότης* and *ταυτότης*, and *κίνησις* and *στάσις* alike.⁶¹

On the other hand, this should not lead one to conclude that the different stages of the material substrate are a literal deduction from what we read in the *Parmenides* or elsewhere. As a matter of fact, even in Proclus' interpretation, matter is present in hypotheses four and five, only as either formed matter or as the first substrate. The stages of the 'second substrate' and of what we have termed the 'third layer' (the level of the traces of the forms) are not discussed as such in the *Parmenides*, just as the second substrate was absent in the scheme of the four Fathers and Creators. What we read in Proclus presupposes the introduction of intermediary levels in a systematised rendering of the doctrine, on the basis of scattered remarks in the dialogues.

VI. Conclusion

Why did orthodox Platonists like Syrianus, Proclus, Damascius and Simplicius feel the need to hold on to this very difficult and confusing account of matter in Plato's *Timaeus*? Why didn't they opt for a metaphorical reading, which would allow them to endorse the much more simple and straightforward Aristotelian view of matter?

I think they did so for a very precise reason, namely that to them, the Aristotelian view of matter was *not* simple and straightforward at all. It

⁶⁰ In *Parm.* VI 1063.18–1064.13.

⁶¹ See *Parm.* 159 e 2–160 b 4. Proclus may have found a support for making a difference between the second substrate and the level of 'πάν ὅσον ὁρατόν' (levels II and III resp. in the scheme of the appendix) in Plato's separate treatment of *ὁμοιότης*/*ἀνομοιότης* (*Parm.* 159 e 2–160 a 3), which Proclus attributes to level III, and of *ἐτερότης*/*ταυτότης*/*κίνησις*/*στάσις* (*Parm.* 160 a 4–b 4), which according to Proclus are to be situated at level II.

could only be regarded as simple, in so far as matter is already formed in some way or other. But how about the pure receptivity to anything, without any previous presence of forms? How does prime matter get its receptivity? This 'prime matter' is not something we should go into now, but it is clear that it causes peculiar problems to the Aristotelian tradition, because of its inherent infinite regress of detaching matter from any form.

Facing these problems, the orthodox Platonists cherished Plato's solution: he provided them at least with a finite conception of matter, attributing a certain proper dynamic to the substrate which could exist without any previous form. This model avoids the infinite regress, and moreover, it allows one to reduce the ultimate substrate to an immaterial principle, which, according to the Neoplatonists, is exactly what Aristotle failed to do.⁶²

⁶² Cf. Steel (2003) 177–180. I thank C. Steel for his valuable comments on an earlier version of this paper.

Appendix: general scheme of the different material substrates

Level	Name/properties		Platonic evidence
I	ἀνάγκη	<i>In Tim.</i> I 1.42.26; <i>In Parm.</i> III 790.5–791.20; I 620.21–621.1 V 1017.18–20; <i>Theol. Plat.</i> V.31 114.5–10	<i>Tim.</i> 47 e 3–48 a 7
	χώρα	<i>In Tim.</i> II 1.325.10–328.12; II 1.385.28–386.8 <i>et alibi</i>	<i>Tim.</i> 53 a 6
	‘ύλη’	<i>In Parm.</i> II 735.24; IV 844.19	
	ἄπειρον	<i>In Tim.</i> II 1.385.17–386.8; II 1.256.13–30; <i>In Parm.</i> VI 1119.4–8	<i>Phil.</i> 24 a 6–25 d 1 (not about matter); [<i>Parm.</i> 159 e 2–160 b 4: 5th hypothesis: Procl., <i>In Parm.</i> VI 1064.7–12]
II	τὸ πλημμελῶς καὶ ἀτάκτως κινούμενον	<i>In Tim.</i> II 1.326.5–10	<i>Tim.</i> 30 a 4–5
	δεύτερον ὑποκείμενον	<i>In Tim.</i> II 1.387.12	
	ὑποκείμενον τοῦ παντός	<i>In Parm.</i> VI 1123.13–14	
	κίνησις/στάσις	<i>In Parm.</i> II 736.3–6	<i>Soph.</i> 248 e 7–254 e 1; <i>Parm.</i> 156 d 2–e 7
	ἐτερότης/ταντότης	<i>In Parm.</i> II 735.26	<i>Soph.</i> 254 e 1–255 e 7; <i>Parm.</i> 146 a 9–147 b 8
	ἄποιον ὑποκείμενον τῶν σωμάτων	<i>In Parm.</i> II 735.23–24	[<i>Tim.</i> 52 e 2] (absence of ὁμοιότης)
	ἄποιον σῶμα	<i>In Parm.</i> VI 1119.9–11; 1123.11–14	
	ποσόν (‘τοσοῦτον ὅσον τὸ πᾶν’)	<i>In Parm.</i> VI 1123.7–11	<i>Soph.</i> 244 d 14–245 d 11 (esp. 245 d 8–10)
	ὄγκος (‘ὄγκοι τῶν σωμάτων’)	<i>In Tim.</i> I 1.140.24–30	<i>Tim.</i> 31 c 4 and 54 d 1; <i>Parm.</i> 164 d 1
	πρόδος εἰς διάστασιν καὶ μερισμὸν ἀποτελεωτῶσα	<i>Theol. Plat.</i> V.31 114.1–10	
	πρῶτον διαστατόν	<i>In Parm.</i> VI 1119.10	
	πρώτως διαστατόν	<i>In Parm.</i> II 735.25 <i>coni.</i>	
	διάστασις + συνέχεια	<i>Theol. Plat.</i> V.31 114.9	<i>Tim.</i> 36 ad (though not about matter)
	διαίρεσις	<i>In Parm.</i> II 736.1	
	‘εἶδος’/ἄμορφον εἶδος	<i>In Parm.</i> II 735.26/ <i>In Parm.</i> IV 844.20	<i>Tim.</i> 51 a 7

Table (*cont.*)

Level	Name/properties	Platonic evidence
III	πάν ὅσον ὁρατόν	<i>Theol. Plat.</i> V.17 63.5–7; <i>Tim.</i> 30 a 3 <i>In Tim.</i> II 1.387.5–14
	ἵχνη τῶν εἰδῶν	<i>In Tim.</i> II 1.387.13; 388.23; <i>In Parm.</i> IV 844.21; <i>In Tim.</i> II 1.270.15–16
	ὑλή, ἥδη προκόψασα εἰς εἰδῶν μετάληψιν	<i>In Tim.</i> II 1.388.1
	πλημελὲς καὶ ἄτακτον	<i>In Parm.</i> IV 844.21–22; <i>In Tim.</i> II 1.270.12 and 19; <i>In Tim.</i> II 1.387.14
	ὁμοιότης/ἀνομοιότης	<i>In Parm.</i> II 736.1–3 <i>Tim.</i> 53 a 4–5; <i>Parm.</i> 147 c 1–148 d 4
	ποιότης (‘τὰ ἥδη πεποιωμένα’)	<i>In Parm.</i> II 736.1–3; VI 1119.11–15 [<i>Theaet.</i> 182 ab, not about matter]
	‘μορφωθὲν ὁπωσοῦν’	<i>In Tim.</i> II 1.388.1 <i>Tim.</i> 52 d 6
IV	ύλη	<i>Theol. Plat.</i> V.31 114.1–10 [<i>Parm.</i> 157 b 6–159 b 1; 4th hypothesis: Procl., <i>In Parm.</i> VI 1064.5–7]
	στοιχεῖα	<i>Theol. Plat.</i> V.20 73.15–16; <i>In Tim.</i> III 2.56.12–68.5 <i>Tim.</i> 48 bd; 53 c–54 d
	διάρθρωσις	<i>In Tim.</i> II 1.383.20
	ἔνυλα εἶδη	<i>In Parm.</i> VI 1122.35–1123.7; 1123.14–18

THE DIVINE EARTH: PROCLUS ON *TIMAEUS* 40 BC

Carlos Steel

I. *Down to earth*

The subject of this contribution may seem surprising. What could we learn from a Neoplatonic philosopher about the earth? Is Neoplatonism not a philosophy with an excessive emphasis on the intelligible world, an exhortation to escape from this sublunary world? Is the earth, after all, not the most inferior of all elements, heavy, obscure, opaque, opposed to the element of fire? The opposition between earth and heaven is often used as a metaphor, particularly in the Platonic tradition, to indicate the difference between the sensible and the intelligible world, where the soul may find its true destination (as told in the myth of the *Phaedrus*). Timaeus' solemn conclusion exhorts us to rise up from earth toward what is akin to us in heaven, cultivating our rational soul, which is housed atop our body. Timaeus describes human beings as 'plants grown not from the earth but from heaven' (90 a). By suspending our head from heaven, the region from which our souls were originally born, we may keep our whole body upright. Souls that never engaged in contemplation of the heaven may end up being reincarnated as animals dragging their four limbs and head towards the ground, 'like towards like' (91 e). In the *Sophist* we hear about the dreadful earth-born men, the materialists, who dare to attack the friends of the forms dwelling on sublime heights (248 c). Many pages could be filled with quotations about the opposition between heaven and earth, there and here, above and below, mind and body, heavy and light, ascent and descent. One should, however, be careful not to misunderstand these metaphors within the tradition of Christian Neoplatonism, where life on earth is seen as an exile, as a pilgrimage 'in hoc lacrimarum valle'. After all, in archaic Greek culture and in its religious practices, Earth, the mother and nurse of all living beings, was a much venerated divinity. In a beautiful text quoted by Porphyry, Theophrastus calls the earth the common hearth (ἑστία) of gods and humans. We owe her, indeed, our daily nourishment. Therefore, it is right to sacrifice a part of the harvest to the earth and to the gods. All of us, 'we should prostrate

ourselves on earth, as our nurse and mother, sing hymns to her and love her as someone who gave us birth.¹ Only if we pay this tribute to the earth, may we be qualified to see the celestial gods at the end of our life. It was an Athenian tradition that a sacrifice to a god must be preceded by a libation to Earth, called in Athens γῆ κουροτρόφος.² Another indication of the veneration of Earth in Athens is Demostenes' usage of the formula ὦ γῆ καὶ θεοί (fourteen instances in his work, one in Aischines). Furthermore, there are many references to the cult of Earth in the ancient tragedies.³

Proclus stands in this tradition of veneration of the earth, whom he even calls with her Athenian name κουροτρόφος.⁴ We find in his work an impressive doctrine about the earth, not only explaining her physical status and function within the cosmos, but also vindicating her theological significance.⁵ In the development of his doctrine Proclus follows, of course, the guidance of the divine Plato himself. The seminal Platonic text on the earth is the *Timaeus*. Timaeus first deals with the earth when he is describing the formation of the world's body out of the four elements (31 b–33 b). Fire and earth are the two extreme elements and cannot hold together without the two mean terms, water and air. In the second part of his discourse Timaeus describes how the four elements are constructed out of elementary triangles (53 c–55 c).⁶ In this chapter I will not deal with those sections, but instead will focus on Plato's description of the creation of the earth in 40 bc.

Besides the *Timaeus*, there is another authoritative Platonic text on the earth: the myth at the end of the *Phaedo*. Plato concludes the *Phaedo* with a wonderful account about the sublime heights of the earth where the good souls will find a blessed life, and the underworld where the

¹ Theophrastus quoted by Porph., *Abst.* II.32.1.

² See Suda, s.v., K 2193 Adler. Cf. also Plato, *Crat.* 401 c where the term οὐσία is connected with ἐστία. For a confirmation of this etymology Socrates refers to the ancient practice of the Athenians: 'that sacrifices should be offered to ἐστία first before all the gods'.

³ Cf. Euripides fr. 944 Nauck (ἐστίαν δέ σ' οἱ σοφοὶ βροτῶν καλοῦσιν) and Aesch., *Th.* 16 and 69.

⁴ In *Tim.* IV 3.144.6.

⁵ Proclus' views about earth have not been much studied. See Theiler (1964) 76–79 (with the amusing title 'Die Erdtheologie bei Proklos') and Siorvanes (1996) 301 ff. Theiler's essay contains interesting material but alas suffers from his tendency to explain everything through the influence of Posidonius.

⁶ Proclus' interpretation of this section of the *Timaeus* is lost, but we can reconstruct it from long quotations of his refutation of Aristotle in Simplicius, *In Cael.* III. See also Steel (2005).

evil souls will suffer their appropriate fate. Socrates first describes the true nature of the earth, such as we could see it from above. This is not the earth like we experience it now as inhabitants of one of its many hollows corroded by salty water and mist, where we sit as frogs around a swamp. The real earth is much larger, much more beautiful, life there much healthier and happier than here. Socrates continues with a fantastic description of the underworld with its four meandering rivers of water and fire. As usual Plato mixes old mythological traditions with new scientific explanations to construe a cosmology appropriate to his ethical doctrine of the destination of the soul. According to Proclus this text is not just a mythical fiction, but it contains, though not in all its elements, a scientific doctrine, which may compete with what Aristotle in his *De Caelo* and later geographers, such as Erasthotenes, said about the earth.⁷ We find indeed in Plato's text the classic four problems that are discussed in any scientific doctrine about the earth: (1) its position in the universe: in the middle or not? (2) its figure: spherical or not? (3) its movement or stability; (4) its magnitude. As I reserve a full analysis of Proclus' interpretation of the *Phaedo* myth for another paper, I shall only occasionally make use of it.⁸ My main focus here will be on Proclus' interpretation of Timaeus' hymnic description of the earth in *Tim.* 40 bc.

The earth as centre of the cosmos should not be confused with the element earth. To be sure, the earth we inhabit is mainly composed out of the element earth, but she contains also the other elements. Besides she is, as we shall see, a divine living organism. However, it will not be easy to avoid confusion between the two meanings of 'earth', as Proclus himself often shifts from one usage to the other in his argument. For clarity's sake I shall use the female pronoun 'she' when dealing with our 'mother' earth, and 'it' when discussing the element earth.

⁷ Proclus' commentary on the *Phaedo* is lost, but we can reconstruct his interpretation of the myth from discussions in his other commentaries and, above all, from Damascius' commentary on the *Phaedo* (of which we have two student versions, edited by Westerink [1977]).

⁸ My paper on the Neoplatonic interpretation of the *Phaedo* myth is to appear in Ch. Horn and J. Wilberding (edd.), *Neoplatonic Philosophy of Nature* (conference Bonn May 2007), forthcoming.

II. *Timaeus of Locri and Plato's Timaeus*

In *Timaeus*' discourse the earth is introduced after the formation of the other divine living beings, the stars and the planets, as 'the first and the most venerable of the gods who have come to be within the heaven'.

Earth the demiurge designed to be our nurse and, as she winds round the axis that stretches right through, the guardian and maker of night and day, the first and most venerable of the gods who have come to be within the heaven.⁹

This is in many respects a remarkable characterisation of the earth. First, it is not obvious to discuss the earth in the context of the heavenly gods. The earth after all does not belong to the heaven and is not made of fire like the divine animals dwelling in the celestial spheres (planets and stars). One should notice, however, that the earth is introduced here in an astronomical context, coming after the creation of the heavenly gods, who need a central point for their 'dance', their complex motions, constellations and conjunctions. As *Timaeus* says in the section following our text, it is almost impossible 'to describe the evolutions in the dance of the same gods' without an astronomical model. 'Let here the account of the nature of the visible and generated gods come to an end' (40 d). Even granting the astronomical context, it is surprising to hear the earth called 'the most venerable god within the heaven'. If, however, she is a god, she must be, as all divinities, an everlasting living being composed of soul and body. Moreover, like all the celestial gods, she seems to have some sort of motion of her own. According to Taylor this presentation of the earth as 'the most venerable of the gods within the heaven' is 'quite ironical' and seems to allude to mythological cosmogonies which often introduce the earth as one of the primordial beings. The allusion prepares us for the sarcasms about the traditional theogonies which follow. Among the gods mentionned there we also find οὐρανός and γῆ.¹⁰ One never fully knows where Plato is serious or playful in the *Timaeus*. I do not believe, however, that the presentation of the earth as a venerable divinity is 'ironical'. As we shall see, the earth, who occupies a central position in the wonderful dance of the gods, is rightly considered as a god.

⁹ *Tim.* 40 b 8–c 3 (trans. Cornford) γῆν δὲ τροφὸν μὲν ἡμετέραν, ἰλλομένην δὲ τὴν περὶ τὸν διὰ παντὸς πόλον τεταμένον, φύλακα καὶ δημιουργὸν νυκτὸς τε καὶ ἡμέρας ἐμμηχανήσατο, πρώτην καὶ πρεσβυτάτην θεῶν ὅσοι ἐντὸς οὐρανοῦ γεγόνασιν.

¹⁰ Taylor (1928) 240.

Before we turn to Proclus' interpretation of this paragraph, we have to comment on the corresponding section in the pseudo-Pythagorean treatise *On the Nature of the Universe and the Soul*. This treatise written in Doric dialect purports to be the work that Timaeus of Locri, the main character in Plato's dialogue, adopted as substrate for his own exposition on the universe. Already from the third century BC on the rumour circulated that Plato had plagiarized a Pythagorean work. This may explain why this pseudo-Pythagorean treatise—composed probably in the middle of the first century AD—had such an immediate success. Proclus and later Neoplatonists considered this fraud as authentic and believed that Plato really depended on it. While no longer enjoying the authority it had for Proclus, the treatise remains historically a remarkable document, in some sense the first coherent interpretation of Plato's *Timaeus*. Since Proclus read Plato's *Timaeus* together with this pseudo-Timaeus, a confrontation between the sections on the earth in both works is required before entering a discussion of his interpretation. In the pseudo-Timaeus the section reads as follows:

Earth, which is set in the middle, is the hearth of the gods and the guardian of darkness and dawn producing settings and risings according to the segments of the horizons, for we define settings and risings by means of sight and the segment of the earth. Earth is the most venerable of all bodies within the heaven. Neither was water ever generated without earth nor air without moisture, and fire deprived of moisture and matter, which it inflames, would not continue to exist. Thus, earth is the root of everything and the basis for everything else and is held firm by its own inclination toward the centre.¹¹

This text is surprisingly different from the original Platonic text. The Earth is no longer 'the most venerable of the gods within the heaven' but has become 'the most venerable of all (elementary) bodies within the heaven'. 'The earth keeps, however, some theological significance. She is not called a god, but the 'hearth of gods' (ἑστία θεῶν), a formula which recalls Theophrastus' text quoted above: 'earth, the common hearth of gods and men'. It may also have been inspired by a famous

¹¹ Ps.-Tim., *Nat. Mun.* 31 215.7–13 ed. Marg: Γᾶ δ' ἐν μέσῳ ἰδρυμένα ἑστία θεῶν ὥρος τε ὄρφνας καὶ ἁῶς γίνεται δύσιός τε καὶ ἀνατολὰς γεννῶσα κατ' ἀποτομὰς τῶν ὀριζόντων, ὥς τᾶ ὄψει καὶ τᾶ ἀποτομῇ τὰς γᾶς περιγραφόμεθα. πρεσβίστα δ' ἐντὶ τῶν ἐντὸς ὠρανῶ σωμάτων· οὐδὲ ποκα ὕδωρ ἐγεννάθη δίχα γᾶς, οὐδὲ μάν τοι ἀῆρ χωρὶς ὑγρῶ, πῦρ τε ἔρημον ὑγρῶ καὶ ὕλας ἃς ἐξάπτει οὐκ ἂν διαμένοι· ὥστε ρίζα πάντων καὶ βᾶσις τῶν ἄλλων ἡ γᾶ, καὶ ἐρήρεισται ἐπὶ τὰς αὐτὰς ῥοπᾶς. Trans. of Tobin (1985) (slightly modified).

passage in the myth of the *Phaedrus* where it is said that Hestia (who may be identified with the earth) remains ‘in the house of gods’ when they start their celestial processions.¹² Though the divine significance of the earth is not excluded, it is clear that the anonymous author had more interest in matters of physics. As Matthias Baltes has shown, the author insists here on the priority of the element earth over the other elementary bodies, as he does in other sections of the treatise.¹³ Earth is the primary element because the other elementary bodies could not exist without it. Without earth there could be no place for water; without moisture, no air; without moisture and fuel, no fire. From this consideration of the earth as the primordial element it is concluded that the earth—now taken as the earth globe—is the central body in the universe. The earth is considered as the ‘root and basis’ of all other bodies. The earth remains itself stable in the middle of the universe, and does not need a foundation outside itself. It is self supporting, fixed upon itself (ἐρείσται).

The reason why the earth remains stable in the middle is not given in the corresponding text of the *Timaeus*. The author, however, could find it further in *Tim.* 62 d 12 ff.: ‘if we suppose that there is a solid body poised at the centre of it all, this body will not move towards any of the points on the extremity, because in every direction they are all alike’. Socrates formulates a similar argument in *Phaed.* 109 a: ‘an object balanced in the middle of something homogenous will have no tendency to incline more in any direction than any other but will remain unmoved’. We find similar views on the position of the earth among authors of the first century AD, Philo and Plutarch and in the pseudo-Aristotelian *De Mundo*. They seem to have been the first readers of ‘Timaeus of Locri’ (or is there a common influence?).¹⁴

¹² *Phaedr.* 247 a. Cf. Th. Sm., *Util. Math.* 200.8 ff. where it is said of the earth that, according to Plato, she remains as ‘hearth of the house of the gods’ whereas the planets move with the whole heaven. On the use of the myth of the *Phaedrus* in the cosmological discussion see below, n. 36 and 39 and Baltes (1972) 107.

¹³ Baltes (1972) 108–109. Also Proclus defends the primacy of the element earth: see Simp., *In Cael.* 643.13–27 and Steel (2005) 189–192.

¹⁴ Cf. ps.-Arist., *Mun.* 392 b 15–16; Philo, *Plant.* 5, *Somn.* 1 144.3, Th. Sm., *Util. Math.* 129.12. In the Orphic poems the two terms βάσις and ῥίζα are used to characterize the lowest part of the demiurge, where he touches the earth (Orph., fr. 168 29–30 Kern).

III. *The earth: a wonderful divine living being*

For many people, Proclus admits, the thesis that Earth is ‘the first and most venerable god within the heaven’ seems to be incredible because they are accustomed to look only at her material aspect, the fact that she has a compact and obscure mass.¹⁵ This is certainly an aspect of earth, as they say, but we should ask those people to consider also other properties of earth by which it even surpasses the three other elements: its stability, its creative power (as is manifest from the many plants and animals growing in it), its correspondence to the heaven and its position in the centre of the universe. It occupies the centre, not in a mathematical, but physical sense.¹⁶ The centre has indeed a great power within the universe, because it holds as it were the circumference together. Therefore the Pythagoreans called the centre of the universe the ‘fortress of Zeus’ (Ζανὸς πύργος) because the guard post of the demiurge is established there. If some people have problems with this praise of the earth, we should remind them of Plato’s views on the earth as we find them in the myth of the *Phaedo* (110 a ff.). For sure, the earth that we mortals inhabit is situated in a misty and obscure hollow, corroded by salty water. The true earth, however, is quite different: it has a beauty which resembles that of the heaven, and is ‘the dwelling place of gods’. In fact if we could see the earth from above, it would have a sublime beauty and remind us of the ‘sphere made of twelve pieces of leather’,¹⁷ a dodecahedron, which is the closest figure to the sphere. As Timaeus will explain later in his discourse, the Demiurge has given the heaven the form of the dodecahedron. The true earth then has a spherical form corresponding to that of the whole universe. There are many other reasons to praise the wonders of the earth. We shall turn to these arguments later.

As Proclus says, when we attempt to interpret Plato’s characterisation of the earth as ‘the most venerable of the gods’, we should not just consider its corporeal mass. For it is not because of its mass that it is called a divine being, but because it is ‘a living being composed of a

¹⁵ Unless indicated the argument follows Procl., *In Tim.* IV 3.141.1ff.

¹⁶ On the difference between mathematical and physical centre, see *In Tim.* IV 3.133.25ff.

¹⁷ See *Phaed.* 110 b 7 and *Tim.* 55 c 4–6. On Proclus’ interpretation of the dodecahedron as the spherical shape of the universe, see Steel (2005) 178.

divine soul and a living body'.¹⁸ We can distinguish in this divine being different aspects: there is the visible compact bodily mass, but there is also the ethereal body through which the visible body is connected with its divine soul. This divine soul turns around its immaterial transcendent intellect, which holds the mass of the earth together in the same place. Because of her ethereal star-like body the earth is even more similar to the other celestial gods, the planets and stars. Although 'a kind of star', she is an immobile one.¹⁹ The visible body of the earth—which at first sight seems dead—is wholly animated by this ethereal vehicle and filled with life. This vital force is manifested in the generation and nourishment of a variety of organisms developing from it, including the plants rooted in it as well as the animals moving around. If the earth were not itself an animated being, it would be difficult to explain why plants live as long as they are rooted in the earth, but, once cut off from the earth, wither and die. This can only be explained if one admits that there is a generative power in the earth. Even Aristotle must have observed this, Proclus writes, but 'he was ashamed to attribute physical [*i.e.* vegetative] life to the earth'.²⁰ This comment can only be understood as a reference to the celebrated doctrine of the spontaneous generation.²¹ In *Gen. An.* III.11 762 a 18–21 Aristotle writes: 'in earth and moisture the animals and plants are generated because there is water in earth, and in the water *pneuma*, and in this whole psychic heat; hence *somehow* (τρόπον τινά) everything is full of soul'. Proclus must have noticed that Aristotle seems to have scruples in attributing soul to the earth: he talks about 'psychic heat' (θερμότητα ψυχικήν).

Proclus adds an analogy argument. If *particular* animals, such as human beings, have a rational soul and an intellect, it would be ridiculous not to allot to the *whole* earth and to the other whole elements souls directing them, organizing them and maintaining them within their boundaries. For the whole and eternal beings are more precious than the particular and mortal ones.

To conclude, the earth is a divine living being, with a physical and ethereal body, a soul and an intellect governing it and maintaining it in existence, and it contains a multitude of vital and intellectual forces.

¹⁸ Cf. *In Tim.* IV 3.135.8–15.

¹⁹ See *In Tim.* V 3.308.15–17; see also Dam., *In Phaed.* I.509 (with footnote of Westerink [1977]).

²⁰ *In Tim.* IV 3.135.23–25: καὶ τοῦτο γε καὶ ὁ Ἀριστοτέλης ἰδὼν ἡσχύνθη μὴ οὐχὶ ζῶν ἀντὶ δοῦναι ψυσικὴν.

²¹ Neither Diels nor Festugière could identify this critical reference to Aristotle.

It may seem as if Proclus in pleading for the divinity of the earth is showing a theological preference, which is characteristic of the Athenian school. He stands however in a long tradition. The Stoics too considered the earth as a living organism, wherein not only plants of all kinds grow, but also minerals and precious stones are formed in its wombs. The doctrine reappears later in Seneca and in Pliny's *Natural History*.²² But the most interesting antecedent of Proclus' theology of earth is Plotinus, who is quoted by Proclus in this context.

In *Enn.* IV.4 [28], the second book of problems on the soul, Plotinus devotes a long digression (chapters 22–27) to the soul of the earth. Do plants have their own (vegetative) soul or do they receive their vital powers from the earth and its soul? If we admit the latter option, one might enquire again what soul there is in earth? 'Is it a kind of illumination coming to the earth from the celestial sphere, the only nature Plato seems (*Tīm.* 36 e) to make primarily ensouled?' But the same Plato says that the earth is the 'first and most venerable of the gods within the heaven', which means that the earth must have a soul, like the stars have a soul. For how could the earth be a god if it did not have a soul making it a living being? A difficult question, and as often, Plotinus admits, what Plato has to say on the subject, makes the solution of the problem even more perplexing, or at least not less perplexing. Therefore he exhorts us to examine the problem ourselves.

That the earth is a living intelligent animal is evident for Plotinus.²³ It has undoubtedly a vegetative soul, as is obvious from the plants which grow out of it. Plants that have been cut off from earth, cease to be alive: a tree only becomes a piece of wood. This is somehow true even of minerals and stones. As long as they are attached to the earth, they continue 'growing' thanks to the generative soul present in it. When, however, they are taken away, a marble stone for example, they keep the size they were cut.²⁴ As Plotinus says in another treatise, this is a remarkable indication of the fact that a 'vital rational principle' (λόγος ἐμψυχος) is working inside the earth:

The growth, then, and shaping of stones and the inner formation of mountains as they grow one must most certainly suppose take place because a 'vital rational principle' is working within them and giving

²² Cf. the references in Theiler (1964).

²³ The argument comes from IV.4 [28] 22. On Plotinus' views on the earth, see Laurent (1992).

²⁴ See IV.4 [28] 27.5–12.

them form; and this is the active form of earth, like what is called the growth-nature (φύσιν) in trees, and what we call earth corresponds to the wood of the tree, and when the stone is cut out it is in the same state as if something is chopped from a tree, but if this does not happen to it and it is still joined on it is like what has not been chopped off from a living plant.²⁵

The earth not only generates stones and plants, for we see that ‘also many animals’ are produced from it, obviously through spontaneous generation. And if small animals grow from the earth, why should we not consider the earth itself as an animal? Since it is such a huge animal, occupying a large portion of the universe, we should also admit that it has intelligence. For intelligence is required to govern such a large being. Plotinus makes another analogy argument: as we learn from the *Timaeus*, the stars, which are fiery bodies, have each their own soul. Why should we deny, then, soul to the body of the earth? Some may object that the body of earth has no flesh and blood, but neither have the stars. One could even claim that the earthy body is more capable of organic life than the fiery, since it has a greater material diversity. As we shall see, it is composed not only of the element earth, but also of all other elements. One might object again that it is not easy to move the earth, which would be another argument against her being an ‘animal’. To be sure, the earth does not move from her place, but she initiates all kinds of movements and changes inside herself. If, then, the earth has a soul and an intelligence and if she can not come to be or cease to be, we have to conclude that she is an everlasting divine animal.

There remains a fundamental objection. How can the earth have sense perception without having the organs for it? Plotinus replies that this objection could also be raised about the divine stars, and he argues further that bodily organs such as ears or eyes only play a limited role in sense perception. The objection offers him a welcomed opportunity for a long digression on the nature and function of sense perception. The discussion on how the earth’s soul exercises sense perception in bodily conditions radically different from ours may contribute to a better understanding of the essential properties of sense perception. Perception is essentially an activity of the soul, not of the body, a judgment (κρίσις) about the affects (παθήματα) of the body. Having fully explained the nature of sense perception, Plotinus concludes that there is no reason

²⁵ VI.7 [38] 11.24–27 (trans. Armstrong modified).

to refuse this perception to the earth. For the earth must be aware of the processes happening in it.

There is nothing to prevent the earth having perceptions for this reason, too, that it may make good arrangements for men, as far as the affairs of men concern it—it will make good arrangements by a kind of sympathy—and hearing those who pray to it, and answering their prayers, not in the way we do.²⁶

To conclude, the earth not only has vegetative powers, but also sense perception, a rational soul and intelligence. In this remarkable defence of the earth as a living being Plotinus is undoubtedly inspired by the Stoic doctrine of the cosmos as a divine organism: the reference to *συνπάθεια* in the text is an indication of it.²⁷ Nevertheless, as usual, Plotinus dematerializes the Stoic doctrine: whatever makes the world an organism and a divinity is the presence in it of an incorporeal soul. As we have seen, the earth not only has a generative soul present in her body, but also a sensitive soul, which is not mixed with body, but directs it from above. Above all she has a rational soul and an intellect ‘which men, making use of divine revelation and of a nature which divines such things, call Hestia and Demeter’.²⁸ Plotinus thus interprets the two divinities, which are traditionally associated with earth and her fertility, as her superior intellectual powers.

It is precisely this theological comment that attracted Proclus’ attention. It confirms indeed his own views on the divinity of the earth. Proclus even clarifies Plotinus’ view: Hestia stands for the rational soul of earth, Demeter for her intellect.²⁹ This theological note in Plotinus’ argument is somehow surprising. In comparison to the later Neoplatonists, Plotinus has a distanced, almost enlightened attitude towards religious practices and beliefs, which he likes to interpret—in the Stoic tradition—allegorically. This attitude comes to the fore in chapter 30 of the same treatise, when he is dealing with prayers to the stars and the planets. It seems that they need memory of the prayers that mortals

²⁶ IV.4 [28] 26.13–17 (trans. Armstrong).

²⁷ Cf. Sen., *Nat. Quaest.* VI.16.1: ‘non esse terram sine spiritu palam est : non tantum illo dico quo se tenet ac partes sui iungit, qui inest etiam saxis mortuisque corporibus (*sc. hexis*), sed illo dico vitali et vegeto et alente omnia...quemadmodum tam diversas radices aliter atque aliter in se mersas foveret (terra), quasdam summa receptas parte, quasdam altius tractas, nisi multum haberet animae.’ Other texts quoted in Theiler (1964) 72 ff.

²⁸ IV.4 [28] 27.16–18 (trans. Armstrong).

²⁹ See *In Tim.* IV 3.140.9–11.

offer to them. But how could they have memory? And how could the earth have memory?

But there would also be some such need of memory for the conferring of benefits on mortals as with Demeter and Hestia—earth after all—unless one were to attribute to the earth alone a beneficent influence on human life.³⁰

The last clause ‘unless’ (εἰ μὴ) expresses some doubts about divinizing too much the earth. Maybe there is no reason to invoke divinities such as Demeter and Hestia and attribute them memories of our prayers. It may suffice to explain everything by the beneficent influence of the earth itself, this wonderful intelligent living organism.

It is interesting to see how different Proclus’ attitude is in this theological question. Starting from what in Plotinus is only a reference to traditional religion, he develops an elaborate theological exposé on the different divinities of the earth:

We for our part, we say that the first causes of those divinities [*sc.* Demeter and Hestia] are intellectual, hegemonic and absolute, and that from them come illuminations and powers down to earth. [...] All those chthonic gods are situated around the one divinity of Earth, just as a multitude of celestial gods has proceeded around the one divinity of heaven.³¹

Using a phrase of pseudo-Timaeus, Proclus elsewhere calls the earth ‘the hearth (ἑστία) of all encosmic divinities’: it is somehow the corporeal counterpart of the monad of Being, which is also called the ‘hearth of all beings’.³² We shall return to this theology of earth in the last part of this chapter.

IV. *The motion of the earth*

One of the most controversial points in the interpretation of the *Timaeus* both in antiquity and in modern scholarship is the question of a possible motion of the earth.³³ We read in the *Timaeus* that ‘the

³⁰ IV 4 [28] 30.18–21 (tran. Armstrong).

³¹ *In Tim.* IV 3.140.11–19.

³² See *Theol. Plat.* III.19 66.23–25; V.20 74.14. For the metaphor ἑστία τῶν ὄντων cf. also *Theol. Plat.* III.9 36.5–6; *In Parm.* I 704.13–14 and IV 969.8.

³³ See Taylor (1928) Cornford (1937); Cherniss (1944) 552–561; Claghorn (1954), Cherniss (1976) 78–79, and on the Neoplatonic discussion, Guldentops (2005).

earth winds (ἰλλομένην) round the axis that stretches right through'. Aristotle interpreted the verb ἴλλεσθαι in its obvious sense as indicating a motion of the earth around her axis, and he criticized Plato for this view, which undermines the foundations of all cosmology. An immobile centre is, indeed, needed to explain the circular movements of the celestial spheres.³⁴ The hypothesis of an axial rotation of the earth was defended by some astronomers (including Heraclides of Pontus, a disciple of Plato).³⁵ The later Platonists, however, all rejected this hypothesis and adhered to Aristotle's views on the immobile position of the earth. They were, however, embarrassed by this section of the *Timaeus*, because it was often used in the debate as an argument in favour of the motion of the earth. Therefore, they had to offer an explanation of the text that excluded all motion from the earth. Aristotle's reading of the *Timaeus* was, they said, unfair, taking the text in a superficial sense without looking for its deeper meaning. Following a middle Platonic tradition,³⁶ Proclus takes the crucial verb in the text ἰλλομένην (or εἴλλο-) (40 b 8) in the sense of to 'roll up tight' to 'curl up', to 'be pressed together' (σφιγγομένην). He refers to the usage of the term εἰλλόμενον in *Tim.* 76 c 1 (which he takes as the same verb as ἰλλομένην) where it certainly has not the meaning of motion. Of the hair it is said that it is rolled up, curled up underneath the skin'.³⁷ As Damascius, following Proclus, says about the earth: 'placed in the middle, it may be expected to maintain its natural position round the centre. Inasmuch as it is pressed together (ἐσφιγγομένη) round the centre, it remains in the same place'.³⁸

Besides this linguistic evidence, Proclus gives a number of arguments demonstrating that Plato was as much a partisan of the immobility of the earth as was Aristotle. As the question has often been discussed,

³⁴ Cf. *Cael.* II.13 293 b 30–33.

³⁵ Proclus insists—against all evidence—'that he was not a disciple of Plato' (*In Tim.* IV 3.138.9).

³⁶ Alcín., *Didasc.* 15 171.26–30. Calcidius confronts both interpretations of the text (those who read it as implying an axial rotation and those who defend the immobility of the earth) but finds the latter more plausible: 'quare uel sic intellegendum uel aliquanto uerisimilius medietati mundi adhaerentem quiescere terram proptereaue et a Platone et a multis aliis Uestam cognominari. Denique in Phaedro idem ait: Manet enim Uesta in diuino domicilio sola' (CXXII 166.10–14 Waszink). See also Cherniss (1976) 78–79. This Platonic reading of the text was rejected by Alexander of Aphrodisias, see *Simp., In Cael.* 518.1–8 and 19–21 and Guldentops (2005) 210.

³⁷ *In Tim.* IV 3.137.6–13; cf. *Simp., In Cael.* 517.13–22; see Guldentops (2005).

³⁸ Dam., *In Phaed.* I.515.

I only summarize the main points of Proclus' arguments, as can be found in IV 3.136.29–138.10.

1. Plato clearly maintains the immobility of the earth in the *Phaedo* and gives arguments for it. Why, then, should he give up this view in the *Timaeus*?
2. In the myth of the *Phaedrus* we find a description of the procession of the Olympian gods following in their winged chariots Zeus on the vault of heaven. Of Hestia, on the contrary, it is said that she remains at home: 'Hestia is the only one who remains at the home of the gods; all the rest of the twelve are lined up in formation, each god in command of the unit to which he is assigned'.³⁹
3. In the treatise of Timaeus of Locri, which was according to Proclus Plato's main source for his argument in the dialogue, it is said that the earth is solidly established in the centre.
4. Plato does not include a possible motion of the earth in his calculation of the 'perfect astronomical year'. For he only considers eight revolutions (the revolutions of seven planets and of the sphere of the fixed stars).

Whatever the arguments in favour of the immobility of the earth may prove, what Timaeus literally says, namely that 'the earth winds round the axis (πόλος) that stretches right through', remains problematic. Therefore, Proclus is pleased to join Iamblichus in offering a higher speculative interpretation of this passage.⁴⁰ According to Iamblichus the term πόλος may stand for the 'heaven' itself 'that stretches throughout' as it is wholly made convex.⁴¹ It is around this heaven that the earth is 'turning around' (ἔλλεσθαι), not in a local sense, but because of its desire to resemble the heaven it 'converges towards the middle'. Just as the heaven moves around the centre, so also the earth is somehow 'concentrated' (συναγομένη) towards the centre and made spherical as far as possible and thus becomes similar to the heaven, which is spherical by essence. For the earth is, as is said further in the *Timaeus*

³⁹ *Phaedrus* 247 a (trans. Nehamas and Woodruff). Cf. Calcidius (quoted in n. 36) and Macr., *Sat.* I.23.8. More references in Baltes (1972) 107.

⁴⁰ See *In Tim.* IV 3.139.2–16. Dillon (1973) only considers 2–7 as a fragment from Iamblichus (fr. 73). But the explanation that follows ('according to this intuition') must also be attributed to Iamblichus.

⁴¹ For the explanation of πόλος as οὐρανός Iamblichus referred to *Crat.* 405 cd. See also Simp., *In Cael.* 517.12–13.

(58 a 7), ‘compressed’ (σφιγγομένη) by the circumference of the heaven surrounding it throughout.

V. *The Earth as guardian and maker of night and day*

That the earth produces night, is evident, since the projection of its shadow prevents the sun from illuminating a part of the earth. But how should we understand that the earth also makes the light of the day? The explanation may be that the earth produces the day in so far as it is connected with the night. For it is with reference to the night that we talk about sunset and sunrise. If there were no night, it would not make sense to talk about day. As day and night are always conjoined in alternation, it seems right to say that the earth produces both day and night. She is also their ‘guardian’ because she watches over their relative limits, produces equalities according to certain proportions: when the nights are longer, the days will be shorter, and vice versa. That is why the earth is also called ‘Isis’ in some religious traditions, because of the equality she realizes.⁴²

In his interpretation, Proclus is again influenced by pseudo-Timaeus. In fact, the latter explains better than Plato in what sense the earth exercises her function as ‘guardian of day and night’:

the guardian of darkness and dawn producing settings and risings according to the segments of the horizons, for we define settings and risings by means of sight and the segment of the earth.

VI. *Earth as ‘our nurse’*

As we have seen, the earth is mother and nurse of all living beings rooted in her or growing from her: they all, stones, plants and animals share in her generative powers. But what Timaeus says, goes beyond this claim, for he calls the earth ‘our nurse’ (τροφὸς ἡμετέρα), the nurse of all human beings. As a nurse she infuses into us all forces of life, making us share of her own life. This cannot just mean that the earth nourishes our bodies with the fruits and the plants that she produces,

⁴² This may be a reference to Porphyry according to Festugière (1968a) 178 n. 1: cf. Eus., *PE* III.11 49.

since nourishment is not specific for humans. The earth is our nurse because she also instils our *souls* with her illuminations. As Proclus explains:

Being a divine animal and having generated us, made as particular animals, she nourishes and maintains our bodily mass through her own body, perfects our soul from her own soul, arouses the intellect in us according to her own intellect, and thus she becomes as a whole the nurse of our whole constitution.⁴³

A rhetorical text, as often in Proclus, but what does it mean to say that the earth perfects our intellect? In Proclus' explanation, the earth is our nurse in particular because of her intellectual influence on us. What really constitutes 'us' is the fact that we are 'rational souls and intellects'. Yet how could the earth have any impact on our thinking? Maybe a suggestion can be found in Plato's praise of the autochthonic Earth (Attica) in the *Menexenus* (237 e-238 b). Attica (called 'the earth our mother') has not only produced food for the human race, such as wheat and olives, but has also given them divine teachers and educators of the soul:

When she had nourished them and brought them to their youthful prime, she introduced the gods to rule and teach them. They equipped us for living, by instructing us...and teaching us.⁴⁴

VII. *The Symphony between Earth and Heaven*

Standing in opposition to the heaven, the earth also exercises a 'counterbalancing (*ἀντίρροπος*) power' within the cosmos, thus acting together with the heaven in a wonderful harmony. This harmony can be shown in various ways.

(1) The earth has a central role in the astronomical system.⁴⁵ The circular motions of the celestial spheres, of the planets and stars, are only possible when they are related to the immobile centre of the universe, the earth. This is evident from the structure of the argument on the earth in the *Timaeus*. As we have seen, Plato discusses the earth

⁴³ In *Tim.* IV 3.136.18-24.

⁴⁴ *Mx.* 238 ab (trans. Ryan).

⁴⁵ In *Tim.* IV 3.133.16-134.8.

in an astronomical context, having first explained the movements of the planets. It is around the earth that the heavenly gods will perform their wonderful 'dance' (40 c).

(2) The concordance between heaven and earth is also manifest in meteorological phenomena, such as winds and rains.⁴⁶ If the heaven (including the sun and the other celestial bodies) can be seen as 'father' of all things that come to be, the earth produces them as their 'mother'. The application of the sexual difference to the interaction between heaven and earth goes back to mythology and is also found among the early natural philosophers.⁴⁷ As Aristotle says, 'they consider in the universe the nature of the earth as female principle and mother, whereas they call the heaven and the sun or some of the other [celestial] bodies generators and fathers.'⁴⁸ This intercourse between heaven and earth is particularly evident in the creation of winds and rains, as Proclus shows following Aristotle's account in *Meteor.* II.4. For the sun, in its circular movement along the ecliptic, approaching or receding from the earth, produces evaporations from the earth, some moist, some dry. These exhalations cause winds and rains and account for variations in rain and temperature during the year. The earth offers as it were the matter for the evaporations, whereas the heaven gives them their particular form.⁴⁹

(3) There is a wonderful correspondence between heaven and earth with regard to the four elements present in them. The earth contains not only the element earth, but has also in its body the three other elements, water, air and fire. That there is fire inside the earth, is clear in volcanic eruptions. We also see that water and air come out of its interior and cover it. The celestial spheres, on the other hand, also contain the whole spectrum of the four elements, though the element fire is dominant in them, whereas on earth the element earth dominates. As is well known, the Platonists refused to accept the Aristotelian doctrine of the ether as a fifth element. They defended what Timaeus said, in the section preceding the formation of the earth, namely that the celestial bodies

⁴⁶ *In Tim.* IV 3.134.8–20.

⁴⁷ See Anaxagoras, A117 D.-K. and Euripides, fr. 839 Nauck.

⁴⁸ *Gen. An.* I.2 716 a 15–17.

⁴⁹ Cf. Cic., *Nat. Deor.* II.83: '(terra) stirpes alit: expirationibus et aer alitur et aether et omnia supera'.

were made ‘for the most part of fire’ (40 a 1).⁵⁰ As Proclus explains, the heaven is made out of fire as its dominant element, but it contains also in a ‘causal’ manner the powers of the three other elements. Thus, the heaven has the solidity and stability that are characteristics of the element earth, the smoothness, evenness and adhesive nature of water and the transparency and subtlety of air.⁵¹ But these other elements are present in heaven in a state that is much different from what they are here on earth. Thus, the element earth in heaven has not the compact and heavy nature we observe here. Even the fire in heaven is of another kind than the fire we experience on earth. It is an almost immaterial, pure fire, which does not need material or fuel to burn, which is imperishable, which does not destroy things by burning, but only is illuminating. As Proclus says, we have in the heavens only the ‘summits’ (ἀκρότατα) or supreme parts of the four elements. The earth contains also the four elements, not however in a ‘primordial’ way, like they are in heavens, but in a ‘derivative way’. For the other elements are not present here below in a pure form, but are always intermingled with earth, and therefore have become obscure and thick.⁵² To conclude, both the earth and the heaven contain the four elements, the heaven, however, in a celestial way, the earth in an earthly manner (χθονίως):

As the fire there is pure and really real, so too here below is the really real earth and the wholeness of earth, but the fire here exists through participation and in a material manner just as the earth is up there in a primordial manner. For in each of them the other element is present in an appropriate way, on one level the summit of earth, on another the sediment (ὑποστάθμη) of fire.⁵³

The term ὑποστάθμη means the sediment, the residue, what remains for example at the bottom of a wine bottle. It is the ultimate manifestation of the thing.⁵⁴ It is used by Socrates in the final myth of the

⁵⁰ I follow Procl., *In Tim.* III 2.43.1 ff. See also Steel (2005).

⁵¹ *In Tim.* III 2.50.3–12.

⁵² Cf. *In Tim.* IV 3.142.6–9.

⁵³ *In Tim.* III 2.44.4–10 (trans. Baltzy modified). I cannot agree with Baltzy who translates the sentence ὅπου μὲν ἡ ἀκρότης τῆς γῆς, ὅπου δὲ ἡ ὑποστάθμη τοῦ πυρός as ‘where the pinnacle or highest kind of earth is, there is the sediment of fire’. ‘The logic of the argument requires that ὅπου μὲν...ὅπου δέ refer not to different locations but to the same one’ (Baltzy [2007] 92 n. 153). On the contrary, the logic requires that there are different levels (as also in *Elem. Theol.* 103): for where the ‘summit of earth’ is, that is in heaven, we do not find the ‘sediment of fire’, and where we have the ‘sediment of fire’, we do not have the ‘summit of earth’, but earth in its formal nature.

⁵⁴ For this reason the Platonists often called matter the ὑποστάθμη of all things (in

Phaedo to describe the water and mist and air gathered in the hollows of the earth:

The earth itself is pure and lies in the pure sky where the stars are situated, which the majority of those who discourse on these subjects call the ether. The water and mist and air are the sediment (ὑποστάθμην) of the ether and they always flow into the hollows of earth.⁵⁵

The swamps in the hollows are filled through channels connected with the rivers of water, fire, air and mud in the underworld. Following an 'Orphic tradition' Proclus makes the four subterrean rivers correspond to the four elements and the four cardinal points of the universe: the Pyriphlegeton corresponds to fire and the east, the Cocytus to earth and the west, the Acheron to air and the south, the Oceanus to water and the north.⁵⁶ These rivers deposit 'sediments' of the elements in the hollows of the earth.⁵⁷ The mythological description of the four rivers in the underworld is thus for Proclus a confirmation of his thesis that the four elements are present on earth. As a matter of fact, the four elements are present in each of the four sublunary realms, in fire in a fiery way, in air in an airy way, in water in a watery way, and thus also in earth under the predominance of earth. However, only in earth, the lowest of the four, the elements are present in a distinct manner (διακεκριμένως) as symbolized by the four different rivers of the underworld:⁵⁸ we have on earth lakes and rivers of water, we have fire and air recognisable as such. In water, air and fire the other elements are present though intermingled. Only in the heaven we find all elements in their summits, pure and distinguished by their own forms, which corresponds, in a wonderful manner, to the state of the elements on earth.⁵⁹

secondary literature sometimes wrongly translated as the 'foundation of all things'). Thus already in Plotinus: cf. II.3 [52] 17.24. See also Lewy (1956) 384 n. 274–275. A remarkable occurrence of the term is in the exposé on Stoic matter in Diog. Laërt. VII.137 (Platonic influence?).

⁵⁵ *Phaed.* 109 bc (trans. Grube).

⁵⁶ See Dam., *In Phaed.* I.541; 497; II.145; Procl., *In Tim.* III 2.49.9–21 and IV 3.141.25–33 (the reference here is to *Phaed.* 112 c 4–113 c 8, as Diehl rightly indicates (*contra* Festugière [1968a] 181 n. 1). 'The entire (arbitrary) construction is evidently Proclus's' (Westerink [1977] 277 note *ad* 541).

⁵⁷ The connection between the sediments and the four rivers is explicitly made by Procl., *In Tim.* III 2.49.17–19.

⁵⁸ *In Tim.* IV 3.141.26.

⁵⁹ *In Tim.* III 2.49.27–29.

Following Proclus⁶⁰ one should distinguish five states of the elements:

- a. Heaven, where all four elements are present in their pure forms, not mixed, as summits of all elements;
- b. Sphere of fire: all other elements present, but mixed under the dominance of fire;
- c. Sphere of air: all other elements present, but mixed under the dominance of air;
- d. Sphere of water: all other elements present, but mixed under the dominance of water;
- e. Earth: all other elements present not in their summits, but as sediments, but all distinguished from one another (διακεκριμένως).

For this reason, only the earth can be said to correspond fully to the heaven, since it contains the four elements clearly distinguished.⁶¹ The boundary of the heavens is the moon, which is seen in the Orphic tradition as the ‘etherial earth’, as fire is the highest sphere (‘heaven’) of the sublunary realm.⁶²

(4) The correspondence between heaven and earth is also evident in their spherical shape.⁶³ That the universe as a whole and the heaven containing it, is spherical is demonstrated at length in *In Tim.* III 2.68.14–76.29, where Proclus also fully exploits Aristotle’s arguments from *De Caelo* II. That the earth has a spherical shape, is one of Socrates’ premises in the myth of the *Phaedo*:

The first thing of which I am convinced is that, if the earth is a sphere in the middle of heaven, it has no need of air or any other force to prevent it from falling. It is sufficient that it has the *similitude* (ὁμοιότητα) of the heaven with itself throughout and the earth’s own equipoise, for an object balanced in the middle of something similar (ὁμοίου) will have no tendency to incline in any direction than any other but will remain unmoved alike.⁶⁴

⁶⁰ See *In Tim.* III 2.49.12–29.

⁶¹ Cf. *In Tim.* III 2.234.14–16; V 3.172.18–20; IV 3.97.32–98.1.

⁶² Cf. *In Tim.* III 2.48.17 (Cf. Orph., fr. 91 Kern).

⁶³ Cf. *In Tim.* IV 3.141.26; 143.13–15.

⁶⁴ *Phaed.* 108 c 3–109 a 6. Modern commentators and translators understand the phrase ‘ὁμοιότητα τοῦ οὐρανοῦ’ as meaning ‘the homogeneous character of heaven’.

As Damascius notices in his commentary of this section, Socrates does not give a proof of his assumption that the earth is spherical. Therefore, he gives himself two arguments, one is physical (taken from Aristotle, *Cael.* II.14 297 b 17–20), the second speculative: ‘any part of a whole that is itself a whole [as is earth taken as the whole element] imitates the total, not only in its wholeness and totality, but also in its shape; therefore each [whole] part of the universe, including the earth must be spherical.’⁶⁵ As we have seen above, the earth imitates by its ‘compression’ around the centre of the universe as much as possible the heaven that encircles and compresses it, thus becoming spherical itself. If, then, we can prove that the universe is spherical, it follows that the earth, which occupies its centre, is also spherical as far as possible.⁶⁶

From all these considerations we may conclude that the earth plays together (σύστοιχος) with the heaven, as its coordinate partner, counterbalancing its powers, an essential role in the organisation of the cosmos and whatever lives and moves within it. Therefore it can rightly be considered as ‘the most venerable of all the gods within the heaven’.⁶⁷

VII. *Theology of the earth*

When one discusses the value of beings in the universe, whether they are superior or inferior to others, it is not sufficient, Proclus argues, to consider the place they occupy in the universe—from that point of view the earth certainly is among the lowest and most base things. But one should evaluate things according to their essence and their powers (δυνάμεις). What kind of properties or powers, then, does the earth possess that make it superior to the other elements? According to Proclus, the earth can only show its supremacy by those properties that the gods themselves display. For what is really superior is to be found with the gods and proceeds from them. Proclus gives a survey

The meaning is correct, but Proclus may have found in this text an indication of the similarity existing between heaven and earth because of their circular shape.

⁶⁵ Dam., *In Phaed.* II.118 350–351.

⁶⁶ Damascius gives a number of arguments for the spherical shape of the universe in I.516 260–261 and II.117 350–351. As Westerink indicates, the arguments come from Procl., *In Tim.* III 2.68.14–76.29.

⁶⁷ Procl., *In Tim.* IV 3.143.15–17.

of the distinctive characters (ιδιώματα) of all orders of the gods, from the summit of the intelligible to the last class of the hypercosmic gods, and concludes that 'the earth is superior to the other elements according to those [divine] properties'. 'For that reason it is rightly called the most venerable and first of the gods'.⁶⁸ The series of properties can be related to the different classes of gods that Proclus introduces in his *Platonic Theology*. We may thus reconstruct the scheme of the divine properties of the earth:

- (1) its monadic character (μοναδικόν)—the earth is one—corresponds to the first order of intelligible gods;
- (2) its stability (μόνιμον) corresponds to the second order of those gods;
- (3) that it is all encompassing (παντελής) to the third;
- (4) its generative power (γόνιμον) corresponds to the first order of the intelligible-and-intellectual gods;
- (5) its connective power (συνεκτικόν) to the second;
- (6) its perfecting power (τελεσιουργόν), to the third;
- (7) the fact that it stretches out (διατείνον) throughout corresponds to Kronos, the first intellectual god, who extends its power over all things (see *Theol. Plat.* V.11 36.22–23).
- (8) that the earth is producing life (ζωοποιούν) corresponds to Rhea, the second intellectual god;
- (9) that it has the power of ordering all things (κοσμητικόν) corresponds to the third intellectual god, Zeus, the demiurge;
- (10) its assimilative power (ἁφομοιωτικόν) corresponds to the assimilative gods
- (11) its containing power to the absolute (?) gods⁶⁹

These are only the *general* divine properties of the earth making her a venerable divinity. Moreover within this divine earth we also find numerous *particular* divinities, the so called chthonic gods and goddess, such as the chthonic Apollo, who is to be distinguished from the celestial Apollo, the chthonic Zeus and the chthonic Hermes. All those chthonic gods are around the one divinity of the earth, as there is also a mul-

⁶⁸ See *In Tim.* IV 3.142.28–31.

⁶⁹ Difficult to find to περιεκτικόν as a property of a special class of gods: we expect here the absolute gods.

titude of celestial gods around the one divine Heaven. That there is such a chthonic Apollo present in the earth is evident from experience, for instance from the fact that water coming from some sources has a mantic power and may predict the future.⁷⁰ This shows that Apollo is present in these sources. Other places on earth show wonderful powers of healing and purification, which must be attributed to other chthonic divinities present there. These gods are again accompanied by angels and demons taking care of a portion of the earth allocated to them.⁷¹ All these divine powers are present in the earth as ultimate manifestations of the divine powers which exist in heaven. 'For whatever exists in heaven in a heavenly manner, is to be found in earth in a chthonic manner'.⁷²

In his short treatise on magic and sacred practices Proclus wonderfully explains what the theological implications are of this wonderful harmony between heaven and earth.

Just as lovers (ἐρωτικοί) move on from the beauty perceived by the senses until they reach the sole cause of all beautiful and intelligible beings, so too, the theurgists (ιερατικοί), starting with the sympathy connecting visible things both to one another and to the invisible powers, and having understood that all things are to be found in all things, established the hieratic science. They marvelled at seeing the last things in the first, and the first in the last, earthly things in the heaven in a causal and celestial manner, and heavenly things on the earth in a terrestrial way... Thus there are seen on the earth suns and moons in a terrestrial form, and in the heavens all the plants, stones and animals after a celestial manner, alive in an intellectual way.⁷³

⁷⁰ Probably reference to the holy well of Kastalia at the entrance of the Delphic sanctuary in Delphi.

⁷¹ *In Tim.* IV 3.140.24–33.

⁷² *In Tim.* IV 3.140.21.

⁷³ Procl., *Sacrificia* 148.3–10; 19–21 (ed. Bidez). Modified translation of St. Ronan (www.esotericism.co.uk).

BIBLIOGRAPHY

- Accattino, P. (1994) 'Galeno e la riproduzione animale. Analisi del *De Semine*', *ANRW* II 37.2 (Berlin and New York) 1856–1886.
- Algra, K. (2005) 'Book Notes: Aristotle and the Aristotelian Tradition', *Phronesis* 50:250–261.
- Andolfo, M. (1996) *La psiche in Plotino*, Pubblicazioni del Centro di ricerche di metafisica. Temi metafisici e problemi del pensiero antico 54 (Milano).
- Armstrong, A. H. (1960) 'The Background of the Doctrine that the Intelligibles are not outside the Intellect', in *Les Sources de Plotin*, Entretiens sur l'Antiquité Classique 5 (Genève) 391–413 ('Discussion' 415–425).
- (1966) *Plotinus. Ennead 2*, Loeb Classical Library (Cambridge MA).
- (1988) *Plotinus. Ennead 6.1–5*, Loeb Classical Library (Cambridge MA).
- Asmis, E. (1984) *Epicurus' Scientific Method*, Cornell Studies in Classical Philology 42 (Ithaca, NY).
- Ballériaux, O. (1994) 'Thémistius et le néoplatonisme. Le νοῦς παθητικός et l'immortalité de l'âme', *Revue de philosophie ancienne* 12:171–200.
- Baltes, M. (1972) *Timaïos Lokros. Über die Natur des Kosmos und der Seele*, Philosophia Antiqua 21 (Leiden).
- (1976) *Die Weltenstehung des platonischen Timaios nach den antiken Interpreten*, 1, Philosophia Antiqua 30 (Leiden).
- (1978) *Die Weltenstehung des Platonischen Timaios nach den antiken Interpreten*, 2, Philosophia Antiqua 35 (Leiden).
- Baltzly, D. (2007) *Proclus. Commentary on Plato's Timaeus*, 3.1 (Cambridge).
- Barigazzi, A. (1991) *Galeno. Sull'ottima maniera di insegnare*, Corpus Medicorum Graecorum V.1.1 (Berlin).
- Barnes, J. (1981) 'Proof Destroyed', in M. Schofield, M. Burnyeat and J. Barnes (edd.), *Doubt and Dogmatism. Studies in Hellenistic Epistemology* (Oxford) 160–181.
- (1983) 'Immaterial Causes', *Oxford Studies in Ancient Philosophy* 1:169–182.
- (1990) *The Toils of Scepticism* (Cambridge).
- (1991) 'Galen on Logic and Therapy', in F. Kudlien and R. J. Durling (edd.), *Galen's Method of Healing. Proceedings of the 1982 Galen Symposium*, Studies in Ancient Medicine 1 (Leiden) 50–102.
- (1993) 'Galen and the Utility of Logic', in D. Nickel (ed.), *Galen und das hellenistische Erbe*, Sudhoffs Archiv 32 (Stuttgart) 33–51.
- Barnes, J., Bobzien, S., Ierodiakonou, K. and Flanney, K. (1991) *Alexander of Aphrodisias. On Aristotle Prior Analytics 1.1–7*, Ancient Commentators on Aristotle (London).
- Bechtle, G. (2006) 'Die pythagoreisierende Konzeption der Mathematik bei Iamblichos, Syrianos und Proklos. Im Spannungsfeld zwischen pythagoreischer Transposition und platonischer Mittelstellung', in M. Perkams and R. M. Piccione (edd.), *Proklos. Methode, Seelenlehre, Metaphysik*, Philosophia antiqua 98 (Leiden) 323–339.
- Beierwaltes, W. (1965) *Proklos. Grundzüge seiner Metaphysik*, Philosophische Abhandlungen 24 (Frankfurt am Main).
- (1995) *Plotin. Über Ewigkeit und Zeit (Enneade III 7)*, Übersetzt, eingeleitet und kommentiert, Klostermann Texte Philosophie (Frankfurt a. M.), 4. Auflage.
- (2004) *Platonismus und Idealismus*, 2., durchges. u. erw. Aufl. (Frankfurt a. M.).
- Berti, E. (1995) Review of P. L. Donini, *La Metafisica di Aristotele. Introduzione alla lettura*, Roma 1995, *Elenchos* 16:375–385.

- Bertier, J., Brisson, L., Charles, A., Pépin, J., Saffrey, H. D. and Segonds, A.-Ph. (1980) *Plotin. Traité sur les nombres* (Ennéade VI 6 [34]), Histoire des doctrines de l'Antiquité classique 4 (Paris).
- Blumenthal, H. (1979) 'Themistius: the Last Peripatetic Commentator on Aristotle?', in G. Bowersock (ed.), *Arktouros. Hellenic Studies Presented to Bernard M. W. Knox on the Occasion of his 65th Birthday* (Berlin) 391–400, reprinted in R. Sorabji (ed.), *Aristotle Transformed. The Ancient Commentators and their Influence* (London) 113–123.
- Bonazzi, M. (2000) Review of J. Opsomer, *In Search of the Truth. Academic Tendencies in Middle Platonism*, (Brussels), *Elenchos* 21:437–44.
- (2003) *Accademici e Platonici. Il dibattito antico sullo scetticismo di Platone*, Università di Milano. Pubblicazioni della Facoltà di Lettere e Filosofia 213 (Milano).
- (2004) 'Contro la rappresentazione sensibile. Plutarco tra l'Accademia e il Platonismo', *Elenchos* 25:41–71.
- Bonelli, M. (2002) *Alessandro di Afrodisia e la metafisica come scienza dimostrativa*, *Elenchos* 35 (Naples).
- Bostock, D. (1991) 'Aristotle on Continuity in *Physics* VI', in L. Judson (ed.), *Aristotle's Physics: A Collection of Essays* (Oxford) 179–212.
- Boudon, V. (2003) 'Art, science et conjecture chez Galien', in J. Barnes and J. Jouanna (edd.), *Galien et la philosophie*, Entretiens sur l'Antiquité Classique 49 (Genève) 269–298 ('Discussion' 299–305).
- (2007) *Galien. Introduction générale. Sur l'ordre de ses propres livres. Sur ses propres livres. Que l'excellent médecin est aussi philosophe*, Texte établi, traduit et annoté, Collection des Universités de France (Paris).
- Boudon-Millot, V. and Pietrobelli, A. (2005) 'Galien ressuscité: Édition *princeps* du texte grec du *De propriis placitis*', *Revue des Études Grecques* 118:168–213.
- Boys-Stones, G. (2001) *Post-Hellenistic Philosophy. A Study of its Development from the Stoics to Origen* (Oxford).
- (2005) 'Alcinous, *Didaskalikos* 4: In Defence of Dogmatism', in M. Bonazzi and V. Celluprica (edd.), *L'eredità platonica. Studi sul platonismo da Arcesilao a Proclo*, *Elenchos* 45 (Napoli) 201–34.
- Bréhier, É. (1928) *La philosophie de Plotin* (Paris).
- Breton, S. (1969) *Philosophie et mathématique chez Proclus, suivi de Principes philosophiques des mathématiques d'après le Commentaire de Proclus aux deux premiers livres des Éléments d'Euclide par N. Hartmann* (Paris).
- Brisson, L. (2000) 'Entre physique et métaphysique. Le terme ὄγκος chez Plotin, dans ses rapports avec la matière (ύλη) et le corps (σῶμα)', in M. Fattal (ed.), *Études sur Plotin* (Paris) 87–111.
- (2000) 'La place des Oracles Chaldaïques dans la *Théologie Platonicienne*', in A.-Ph. Segonds and C. Steel (edd.), *Proclus et la Théologie Platonicienne. Actes du Colloque International de Louvain (13–16 mai 1998). En l'honneur de H. D. Saffrey et L. G. Westerink* (Leuven and Paris) 109–162.
- Brittain, Ch. (2001) *Philo of Larissa. The Last of the Academic Sceptics*, Oxford Classical Monographs (Oxford).
- (2005) 'Common Sense: Concepts, Definition and Meaning in and out the Stoa', in D. Frede and B. Inwood (edd.), *Language and Learning: Philosophy of Language in the Hellenistic Age* (Cambridge) 164–209.
- Broadie, S. (forthc.) 'Divine and Natural Causation in the *Timaeus*', in F. Fronterotta (ed.), *La scienza e le cause. Sulla Metafisica di Aristotele, Atti del Convegno Internazionale, Lecce, 11–13 maggio 2006*, in print.
- Brunschwig, J. (2002) 'Stoic Metaphysics', in B. Inwood (ed.), *The Cambridge Companion to the Stoics*, Cambridge Companions (Cambridge) 206–232.
- Burnyeat, M. (1981) 'Aristotle on Understanding Knowledge', in E. Berti (ed.) *Aristotle on Science. The "Posterior Analytics"*, *Studia Aristotelica* 9 (Padova) 97–139.
- (1990) *The Theaetetus of Plato* (Indianapolis).

- (2003) 'Apology 30b 2–4: Socrates, Money, and the Grammar of Being', *The Journal of Hellenic Studies* 123:1–24.
- Campbell, K. (1990) *Abstract Particulars* (Oxford).
- Carroll, W. J. (2002) 'Plotinus on the Origin of Matter', in M. F. Wagner (ed.), *Neoplatonism and Nature: Studies in Plotinus' Enneads*, Studies in Neoplatonism 8 (Albany, NY).
- Cellucci, C. (1998) *Le ragioni della logica*, Biblioteca di Cultura Moderna 1136 (Bari).
- Chadwick, H. (1991) *Saint Augustine. Confessions*, Translated with an Introduction and Notes (Oxford).
- Cherniss, H. (1944) *Aristotle's Criticism of Plato and the Academy*, I (Baltimore).
- (1976) *Plutarch's Moralia*, XIII1, *Platonic Essays*, Loeb Classical Library (Cambridge MA).
- Chiaradonna, R. (2002) *Sostanza, movimento, analogia. Plotino critico di Aristotele*, Elenchos 37 (Napoli).
- (2003) 'Il tempo misura del movimento? Plotino e Aristotele (*Enn.* III 7 [45])', in M. Bonazzi and F. Trabattori (edd.), *Platone e la tradizione platonica. Studi di filosofia antica*, Quaderni di Acme 58 (Milano) 221–250.
- (2004a) 'Plotino e la teoria degli universali', in V. Celluprica and C. D'Ancona (edd.), *Aristotele e i suoi esegeti neoplatonici. Logica e ontologia nelle interpretazioni greche e arabe*, Elenchos 40 (Napoli) 1–35.
- (2004b) 'The Categories and the Status of the Physical World. Plotinus and the Neoplatonic Commentators', in P. Adamson, H. Baltussen and M. Stone (edd.), *Philosophy, Science and Exegesis in Greek, Arabic and Latin Commentaries*, 1, Bulletin of the Institute of Classical Studies Supplement 83.1 (London) 121–136.
- (2005a) 'Plotino e la corrente antiaristotelica del platonismo imperiale: analogie e differenze', in M. Bonazzi and V. Celluprica (edd.), *L'eredità platonica. Studi sul platonismo da Arcesilao a Proclo*, Elenchos 45 (Napoli) 235–274.
- (2005b) 'La dottrina dell'anima non discesa in Plotino e la conoscenza degli intelligibili', in E. Canone (ed.) *Per una storia del concetto di mente* I, Lessico Intellettuale Europeo 99 (Firenze) 27–49.
- (2006) 'Connaissance des intelligibles et degrés de la substance—Plotin et Aristote', *Études Platoniciennes* 3:57–85.
- (2007) 'Platonismo e teoria della conoscenza stoica tra II e III secolo d. C.', in M. Bonazzi and C. Helmig (edd.), *Platonic Stoicism—Stoic Platonism*, Ancient and Medieval Philosophy. De Wulf-Mansion Centre, series 1, 39 (Leuven) 209–241.
- (2008a) 'Scienza e contingenza in Galeno', in S. Perfetti (ed.), *Conoscenza e contingenza nella tradizione aristotelica medievale* (Pisa) 13–30.
- (2008b) 'What is Porphyry's *Isagoge*?', *Documenti e studi sulla tradizione filosofica medievale* 19:1–30.
- (forthc.a) 'Galen and Middle Platonism', in Ch. Gill, T. Whitmarsh and J. Wilkins (edd.), *Galen and the World of Knowledge* (Cambridge).
- (forthc.b) 'Concetti generali, astrazioni e forme in Porfirio'.
- (forthc.c) 'Ενέπγεται e qualità in Plotino. A proposito di *Enn.* II 6 [17]', in W. Lapini (ed.), *Studi in onore di Antonio Battezzatore*.
- Claghorn, G. (1954) *Aristotle's Criticism of Plato's Timaeus* (The Hague).
- Cleary, J. J. (2000) 'Proclus' Philosophy of Mathematics', in G. Bechtel and D. J. O'Meara (edd.), *La philosophie des mathématiques de l'Antiquité tardive. Actes du colloque International Fribourg, Suisse (24–26 septembre 1998)* (Fribourg Suisse) 65–101.
- Coleridge, S. T. (1907) *Biographia Literaria*, 1 (Oxford) 1907.
- Cornford, F. M. (1937) *Plato's Cosmology* (London).
- Corrigan, K. (1986) 'Is There More than One Generation of Matter in the *Enneads*?', *Phronesis* 31:167–81.
- (1996a) *Plotinus' Theory of Matter-Evil and the Question of Substance: Plato, Aristotle, and Alexander of Aphrodisias*, Recherches de Théologie ancienne et médiévale. Supplément 3 (Leuven).

- (1996b) 'Essence and Existence in the *Enneads*', in L. P. Gerson, *The Cambridge Companion to Plotinus*, Cambridge Companions (Cambridge) 105–129.
- (2005) *Reading Plotinus. A Practical Introduction to Neoplatonism*, History of Philosophy Series (West Lafayette, IN).
- D'Ancona, C. (ed.) (2007) *The Libraries of the Neoplatonists*, Philosophia Antiqua 107 (Leiden).
- De Haas, F. A. J. (1997) *John Philoponus' New Definition of Prime Matter: Aspects of its Background in Neoplatonism and in the Ancient Commentary Tradition*, Philosophia Antiqua 69 (Leiden).
- De Lacy, Ph. (1978) *Galen. On the Doctrines of Hippocrates and Plato*, Edition, Translation and Commentary, 1, Books I–V, Corpus Medicorum Graecorum V.4.1.2 (Berlin).
- (1980) *Galen. On the Doctrines of Hippocrates and Plato*, Edition, Translation and Commentary, 2, Books VI–IX, Corpus Medicorum Graecorum V.4.1.2 (Berlin).
- (1984) *Galen. On the Doctrines of Hippocrates and Plato*, Edition, Translation and Commentary, 3, *Commentary and Indexes*, Corpus Medicorum Graecorum V.4.1.2 (Berlin).
- Deck, J. N. (1967) *Nature, Contemplation, and the One: A Study in the Philosophy of Plotinus* (Toronto).
- Dillon, J. (1973) *Iamblichus Chalcidensis in Platonis Dialogos Commentariorum Fragmenta*, Philosophia Antiqua, 23 (Leiden).
- (1977) *The Middle Platonists* (London).
- (1999) 'Plotinus on whether the Stars are Causes', *Res Orientales* 12:87–92.
- Dodds, E. R. (1956) 'Notes on Plotinus, *Ennead* III.8.', *Studi italiani di filologia classica* 27–28:108–113.
- (1963) ΠΡΟΚΛΟΥ ΔΙΑΔΟΧΟΥ ΣΤΟΙΧΕΙΩΣΙΣ ΘΕΟΛΟΓΙΚΗ. *Proclus. The Elements of Theology*, Second edition (Oxford).
- Donini, P. L. (1980) 'Motivi filosofici in Galeno', *La parola del passato* 35:333–370.
- (1982) *Le scuole, l'anima, l'impero: La filosofia antica da Antioco a Plotino* (Torino).
- (1987) 'Il *De fato* di Alessandro. Questioni di coerenza', in *ANRW* II 36.2 (Berlin and New York) 1244–1259.
- (1988a) 'The History of the Concept of Eclecticism', in J. M. Dillon and A. A. Long (edd.), *The Question of "Eclecticism". Studies in Later Greek Philosophy*, Hellenistic Culture and Society 3 (Berkeley, Los Angeles and London) 15–33.
- (1988b) 'Science and Metaphysics: Platonism, Aristotelianism, and Stoicism in Plutarch's *On the Face in the Moon*', in J. M. Dillon and A. A. Long (edd.), *The Question of "Eclecticism". Studies in Later Greek Philosophy*, Hellenistic Culture and Society 3 (Berkeley, Los Angeles and London) 126–144.
- (1992) 'Galeno e la filosofia', *ANRW* II 36.5 (Berlin and New York) 3484–3504.
- (2002) 'L'eredità accademica e i fondamenti del platonismo in Plutarco', in ΕΝΩΣΙΣ ΚΑΙ ΦΙΛΙΑ. *Unione e amicizia. Omaggio a Francesco Romano* (Catania) 247–273.
- (2006) 'L'objet de la *Metaphysique* selon Alexandre d'Aphrodise', in M. Narcy and A. Tordesillas (edd.), *La Métaphysique d'Aristote: Perspectives contemporaines*, Études Aristotéliciennes (Paris) 81–98.
- Dörrie, H. (1959) *Porphyrus Symmiktā Zetemata. Ihre Stellung in System und Geschichte des Neuplatonismus nebst einem Kommentar zu den Fragmenten*, Zetemata 20 (München).
- Dörrie, H. (†) and Baltes, M. (1993) *Der Platonismus in der Antike*, 3, *Der Platonismus im 2. und 3. Jahrhundert nach Christus* (Stuttgart and Bad Cannstatt).
- (1998) *Der Platonismus in der Antike*, 5 (§ 125–150), *Die philosophische Lehre des Platonismus* (2) (Stuttgart and Bad Cannstatt).
- (2002) *Der Platonismus in der Antike*, 6.1 (§ 151–168) and 6.2 (§ 169–181), *Von der "Seele" als der Ursache aller sinnvollen Abläufe*, (Stuttgart and Bad Cannstatt).
- Dragona-Monachou, M. (1994) 'Divine Providence in the Philosophy of the Empire', in *ANRW* II 36.7 (Berlin and New York) 4417–4490.
- Earman, J. and Gale, R. M. (1995) 'Time', in R. Audi (ed.), *The Cambridge Dictionary of Philosophy* (Cambridge) 803–806.

- Emilsson, E. K. (1988) *Plotinus on Sense-Perception* (Cambridge).
- (1996) 'Cognition and its Object', in L. P. Gerson (ed.), *The Cambridge Companion to Plotinus*, Cambridge Companions (Cambridge) 217–249.
- (2007) *Plotinus on Intellect* (Oxford).
- Falcon, A. (2001) *Corpi e movimenti. Il De caelo di Aristotele e la sua fortuna nel mondo antico*, Elenchos 33 (Napoli).
- (2005) *Aristotle & the Science of Nature* (Cambridge).
- Fattal, M. (1998) *Logos et image chez Plotin*, Ouverture Philosophique (Paris).
- Fazzo, S. (2002) 'Alexandre d'Aphrodise contre Galien. La naissance d'une légende', *Philosophie antique* 2:109–144.
- Ferrari, F. (1995) *Dio, idee e materia. La struttura del cosmo in Plutarco di Cheronea*, Strumenti per la ricerca plutarca 3 (Napoli).
- Festugière, A.-J. (1966) *Proclus. Commentaire sur le Timée*, 1, *Livre I*, Bibliothèque des textes philosophiques (Paris).
- (1967a) *Proclus. Commentaire sur le Timée*, 2, *Livre II*, Bibliothèque des textes philosophiques (Paris).
- (1967b) *Proclus. Commentaire sur le Timée*, 3, *Livre III*, Bibliothèque des textes philosophiques (Paris).
- (1968a) *Proclus. Commentaire sur le Timée*, 4, *Livre IV*, Bibliothèque des textes philosophiques (Paris).
- (1968b) *Proclus. Commentaire sur le Timée*, 5, *Livre V*, Bibliothèque des textes philosophiques (Paris).
- Flasch, K. (1993) *Was ist Zeit? Augustinus von Hippo. Das XI. Buch der Confessiones. Historisch-Philosophische Studie*, Klostermann Seminar 13 (Frankfurt a. M.).
- Fleet, B. (1995) *Plotinus Ennead III.6: On the Impassivity of the Bodiless*, with a Translation and Commentary (Oxford).
- (2002) *Simplicius on Aristotle's Categories 7–8*, Ancient Commentators on Aristotle (London).
- Fortuna, S. (2001) 'Il metodo della diagnosi in Galeno (*De locis affectis* VIII, 1–452 K.)', *Elenchos* 22: 281–304.
- Franco Repellini, F. (1996) *Aristotele. Fisica. Libri I e II*, Classici della Filosofia (Milano).
- Frede, M. (1981) 'On Galen's Epistemology', in V. Nutton (ed.), *Galen: Problems and Prospects* (Cambridge) 65–86, reprinted in M. Frede, *Essays in Ancient Philosophy*, Oxford 1987, 278–298.
- (1987) 'Introduction: The Study of Ancient Philosophy', in M. Frede, *Essays in Ancient Philosophy* (Oxford) IX–XXVII.
- (1999a) 'Stoic epistemology', in K. A. Algra, J. Barnes, J. Mansfeld and M. Schofield (edd.), *The Cambridge History of Hellenistic Philosophy* (Cambridge) 295–322.
- (1999b) 'Epilogue', in K. A. Algra, J. Barnes, J. Mansfeld and M. Schofield (edd.), *The Cambridge History of Hellenistic Philosophy* (Cambridge) 771–797.
- (2003) 'Galen's Theology', in J. Barnes and J. Jouanna (edd.), *Galien et la philosophie*, Entretiens sur l'Antiquité Classique 49 (Genève) 73–126 ('Discussion' 126–129).
- Frede, M. and Patzig, G. (1988) *Aristoteles Metaphysik Z*, 2 vols. (München).
- Gatti, M. L. (1996) *Plotino e la metafisica della contemplazione*, Temi metafisici e problemi del pensiero antico (Milano).
- Gersh, S. E. (1973) *Κίνησις ἀκίνητος. A Study of Spiritual Motion in the Philosophy of Proclus*, *Philosophia antiqua* 26 (Leiden).
- Gerson, L. P. (1994) *Plotinus, The Arguments of the Philosophers* (London).
- Ghidini, M. T. (1996) 'L'ambigua presenza di Epicuro in Plotino', in G. Giannantoni and M. Gigante (edd.), *Epicureismo Greco e Romano*, 2, *Elenchos* 25 (Napoli) 987–997.
- Gill, M. L. (1991) 'Aristotle on Self-Motion', in L. Judson (ed.), *Aristotle's Physics: A Collection of Essays* (Oxford) 243–265.
- Gottschalk, H. B. (1987) 'Aristotelian Philosophy in the Roman World from the Time of Cicero to the End of the Second Century AD', *ANRW II* 36.2 (Berlin and New York) 1079–1174.

- Graham, D. (1999) *Aristotle. Physics Book VIII*, Clarendon Aristotle Series (Oxford).
- Guldentops, G. (2005) 'Plato's *Timaeus* in Simplicius' *In De Caelo*. A Confrontation with Alexander', in Th. Leinkauf and C. Steel (edd.), *Platons Timaios als Grundtext der Kosmologie in Spätantike, Mittelalter und Renaissance*, Ancient and medieval philosophy. De Wulf-Mansion Centre, series 1, 34 (Leuven) 195–212.
- Hadot, P. (1987) *Plotin. Traité 38 [VI 7]*, Introduction, traduction, commentaire et notes, Les écrits de Plotin (Paris).
- 'The Harmony of Plotinus and Aristotle according to Porphyry', in R. Sorabji (ed.), *Aristotle Transformed. The Ancient Commentators and their Influence* (London).
- Halfwassen, J. (2004) *Plotin und der Neuplatonismus*, Denker (München).
- Hankinson, J. (1989) 'Galen and the Best of All Possible Worlds', *The Classical Quarterly* 39:206–27.
- (1991a) *Galen. On the Therapeutic Method. Books I and II*, Translated with an Introduction and Commentary (Oxford).
- (1991b) 'A Purely Verbal Dispute? Galen on Stoic and Academic Epistemology', *Revue Internationale de Philosophie* 45:267–300.
- (1997) 'Natural Criteria and the Transparency of Judgement: Antiochus, Philo and Galen on Epistemological Justification', in B. Inwood and J. Mansfeld, *Assent and Argument. Studies in Cicero's Academic Books*, Philosophia Antiqua 76 (Leiden) 161–213.
- (2003) 'Causation in Galen', in J. Barnes and J. Jouanna (edd.), *Galien et la philosophie*, Entretiens sur l'Antiquité Classique 49 (Genève) 31–66 ('Discussion' 67–72).
- (2004) 'Art and Experience: Greek Philosophy and the Status of Medicine', *Quaestio* 4:3–24.
- Harari, O. (2006) 'Methexis and Geometrical Reasoning in Proclus' Commentary on Euclid's Elements', *Oxford Studies in Ancient Philosophy* 30:361–389.
- Hathaway, R. F. (2002) 'Plotinus and the Possibility of Natural Science', in M. F. Wagner (ed.), *Neoplatonism and Nature: Studies in Plotinus' Enneads*, Studies in Neoplatonism 8 (Albany, NY) 5–21.
- Hegel, G. W. F. (1965) *Sämtliche Werke*, Jubiläumsausgabe 19 (Stuttgart and Bad Cannstatt).
- Helmig, Ch. (2006) 'Die atmende Form in der Materie. Einige Überlegungen zum ἐνυλον εἶδος in der Philosophie des Proklos', in M. Perkams and R. M. Piccione (edd.), *Proklos. Methode, Seelenlehre, Metaphysik*, Philosophia antiqua 98 (Leiden) 259–278.
- Hoffmann, Ph. (1983) 'Paratasis', *Revue des Études Grecques* 96:1–26.
- Horn, Ch. (1995) *Plotin über Sein, Zahl und Einheit. Eine Studie zu den systematischen Grundlagen der Enneaden*, Beiträge zur Altertumskunde 62 (Stuttgart and Leipzig).
- Ierodiakonou, K. (1995) 'Alexander of Aphrodisias on Medicine as a Stochastic Art', in Ph. J. van der Eijk, H. F. J. Horstamshoff, P. H. Schrijvers (edd.), *Ancient Medicine in its Socio-Cultural Context*, 2, The Wellcome Institute Series in the History of Medicine (Amsterdam and Atlanta, GA) 473–486.
- Igal, J. (1982) *Porfirio. Vida de Plotino. Plotino. Enéadas I–II*, Traducciones y notas, Biblioteca Clásica Gredos 57 (Madrid 1982).
- Ioppolo, A. M. (1993) 'The Academic Position of Favorinus of Arelate', *Phronesis* 38:183–213.
- (2002) 'Gli Accademici "νεώτεροι" nel secondo secolo d.C.', *Methexis* 15:45–70.
- Isaac, D. (1977) *Proclus. Trois études sur la Providence*, 1, *Dix problèmes concernant la Providence*, Texte établi et traduit, Collection des Universités de France (Paris).
- (1979) *Proclus. Trois études sur la Providence*, 2, *Providence, Fatalité, Liberté*, Texte établi et traduit, Collection des Universités de France (Paris).
- (1982) *Proclus. Trois études sur la Providence*, 3, *De l'existence du mal*, Texte établi et traduit, avec une note additionnelle par C. Steel, Collection des Universités de France (Paris).

- Jaeger, W. (1914) *Nemesios von Emesa. Quellenforschungen zum Neuplatonismus und seinen Anfängen bei Poseidonios* (Berlin).
- Johansen, T. K. (2004) *Plato's Natural Philosophy. A Study of the Timaeus-Critias* (Cambridge).
- Jouanna, J. (2003) 'La notion de nature chez Galien', in J. Barnes and J. Jouanna (edd.), *Galien et la philosophie*, Entretiens sur l'Antiquité Classique 49 (Genève) 229–262 ('Discussion' 263–268).
- Judson, L. (1994) 'Heavenly Motion and the Unmoved Mover', in M. L. Gill and J. G. Lennox (edd.), *Self-Motion from Aristotle to Newton* (Princeton, New Jersey) 155–171.
- Kalligas, P. (1997a) 'Logos and the Sensible Object in Plotinus', *Ancient Philosophy* 17:397–410.
- (1997b) *ΠΛΩΤΙΝΟΥ. ΕΝΝΕΑΣ ΔΕΘΕΡΑ (ΑΘΗΝΑΙ)*.
- (2004) *ΠΛΩΤΙΝΟΥ. ΕΝΝΕΑΣ ΤΡΙΤΗ (ΑΘΗΝΑΙ)*.
- Karamanolis, G. (2004) 'Porphyry: The First Platonist Commentator on Aristotle', P. Adamson, H. Baltussen and M. Stone (edd.), *Philosophy, Science and Exegesis in Greek, Arabic and Latin Commentaries*, 1, Bulletin of the Institute of Classical Studies Supplement 83.1 (London) 97–120.
- (2006) *Plato and Aristotle in Agreement? Platonists on Aristotle from Antiochus to Porphyry*, Oxford Philosophical Monographs (Oxford).
- Kollesch, J. and Nickel, D. (edd.) (1993) *Galen und das hellenistische Erbe*, Sudhoffs Archiv 32 (Stuttgart).
- Kotzia-Panteli, P. (2000) 'ΕΝΝΟΗΜΑΤΙΚΟΣ und ΟΥΣΙΩΔΗΣ ΛΟΓΟΣ als exegetisches Begriffspaar', *Philologus* 144:45–61.
- Kovačić, F. (2001) *Der Begriff der Physis bei Galen vor dem Hintergrund seiner Vorgänger*, Philosophie der Antike. Veröffentlichungen der Karl-und-Gertrud-Abel-Stiftung 12 (Stuttgart).
- Kraus, P. and Walzer, R. (1951) *Galen's Compendium Timaei Platonis*, Corpus Platicum Medii Aevi. Plato Arabus 1 (London).
- Kuprecva, I. (2003) 'Qualities and Bodies: Alexander against the Stoics', *Oxford Studies in Ancient Philosophy* 25:297–344.
- (2004) 'Aristotelian Dynamics in the 2nd Century School Debates: Galen and Alexander of Aphrodisias on Organic Powers and Movements', in P. Adamson, H. Baltussen and M. Stone (edd.), *Philosophy, Science and Exegesis in Greek, Arabic and Latin Commentaries*, 1, Bulletin of the Institute of Classical Studies Supplement 83.1 (London) 71–95.
- Kutash, E. F. (2003) 'Commentary on Nikulin', *Proceedings of the Boston Area Colloquium in Ancient Philosophy* 17:210–219.
- Lacrosse, J. (2003) *La philosophie de Plotin. Intellect et discursivité*, Thémis Philosophie (Paris).
- Landauer, S. (1902) *Themistii in libros Aristotelis de Caelo paraphrasis*, Commentaria in Aristotelem Graeca 5.4 (Berlin).
- Laurent, J. (1992) 'Le corps de la terre' *Archives de philosophie* 55:1–15.
- Lee, J. S. (2002) 'The Practice of Plotinian Physics' in M. F. Wagner (ed.), *Neoplatonism and Nature: Studies in Plotinus' Enneads*, Studies in Neoplatonism 8 (Albany, NY) 23–42.
- Lec, T.-S. (1984) *Die griechische Tradition der aristotelischen Syllogistik in der Spätantike*, Hypomnemata 79 (Göttingen).
- Lefebvre, D. (1990) 'Simplicius: Commentaire du chapitre XI du traité sur le temps d'Aristote', *Philosophie* 26:3–18.
- Lejeune, A. (1956) *L'optique de Claude Ptolémée dans la version latine d'après l'arabe de l'émir Eugène de Sicile*, Recueil de travaux d'histoire et de philologie. 4. sér., fasc. 8 (Louvain).
- Leroux, G. (1990) *Plotin. Traité sur la liberté et la volonté de l'Un (Ennéade VI 8 [39])*, Introd., texte grec, traduction et commentaire, Histoire des doctrines de l'antiquité classique 15 (Paris).

- (1996) 'Human Freedom in the Thought of Plotinus', in L. P. Gerson (ed.), *The Cambridge Companion to Plotinus*, Cambridge Companionis (Cambridge) 292–315.
- Lewy, H. (1956) *Chaldean Oracles and Theurgy: Mysticism, Magic, and Platonism in the Late Roman Empire*, Recherches d'archéologie, de philologie, et d'histoire 13 (Caire).
- Linguiti, A. (2003) 'Il cielo di Plotino', in M. Bonazzi and F. Trabattori (edd.), *Platone e la tradizione platonica. Studi di filosofia antica*, Quaderni di Acme 58 (Milano) 251–264.
- (2007) 'Prospettiva pitagorica e prospettiva platonica nella filosofia della natura di Proclo', in M. Bonazzi, C. Levy and C. Steel (edd.), *A Platonic Pythagoras. Platonism and Pythagoreanism in the Imperial Age*, Monothéismes et Philosophie 10 (Turnhout) 195–213.
- Lloyd, G. E. R. (2005) 'Mathematics as a Model of Method in Galen', in R. W. Sharpley (ed.), *Philosophy and the Sciences in Antiquity*, Ashgate Keeling Series in Ancient Philosophy (Aldershot) 110–130.
- Long, A. A. (1974) *Hellenistic Philosophy. Stoics, Epicureans, Sceptics*, Classic Life & Letters (London).
- (1988) 'Ptolemy On the Criterion. An Epistemology for the Practising Scientist', in J. M. Dillon and A. A. Long (edd.), *The Question of "Eclecticism". Studies in Later Greek Philosophy*, Hellenistic Culture and Society 3 (Berkeley, Los Angeles and London) 176–207.
- Long, A. A. and Sedley, D. N. (1987) *The Hellenistic Philosophers*, 1 (Cambridge).
- Majumdar, D. (2007) *Plotinus on the Appearance of Time and the World of Sense. A Pantomime* (Aldershot).
- Mansfeld, J. (1994) *Prolegomena. Questions to be Settled Before the Study of an Author, or a Text*, Philosophia Antiqua 61 (Leiden).
- (1999) 'Alcinous on Fate and Providence', in J. J. Cleary (ed.), *Traditions of Platonism. Essays in Honour of John Dillon* (Aldershot) 139–150.
- Mansfeld, J. and Runia, D. T. (1997) *Aëtiana. The Method and Intellectual Context of a Doxographer*, 1, *The Sources*, Philosophia antiqua 73 (Leiden).
- Manuli, P. (1993) 'Galen and Stoicism', in D. Nickel (ed.), *Galen und das hellenistische Erbe*, Sudhoffs Archiv 32 (Stuttgart) 53–61.
- Manuwald, B. (1989) *Studien zum Unbewegten Bewegter in der Naturphilosophie des Aristoteles*, Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse / Akademie der Wissenschaften und der Literatur, Mainz, 1989 (Mainz and Stuttgart).
- McGuire, J. E. and Strange, S. K. (1988) 'An Annotated Translation of Plotinus *Ennead* iii 7: *On Eternity and Time*', *Ancient Philosophy* 8:251–271.
- Meijering, E. P. (1979) *Augustin über Schöpfung, Ewigkeit und Zeit: Das elfte Buch der Bekenntnisse*, Philosophia Patrum 4 (Leiden).
- Miller, D. (2003) *The Third Kind in Plato's Timaeus*, Hypomnemata 145 (Göttingen).
- Morau, P. (1967) *Aristote. Du ciel*, Texte établi et traduit, Collection des Universités de France (Paris).
- (1984) *Der Aristotelismus bei den Griechen von Andronikos bis Alexander von Aphrodisias*, 2, *Der Aristotelismus im I. und II. Jh. n.Chr.*, Peripatoi 6 (Berlin and New York).
- Morel, P. M. (2002) 'Les ambiguïtés de la conception épicurienne du temps', *Revue Philosophique de la France et de l'étranger* 127:195–211.
- Morison, B. (2002) *On Location. Aristotle's Concept of Place*, Oxford Aristotle Studies (Oxford).
- (2004) 'Self-motion in *Physics* VIII', in A. Laks and M. Rashed (edd.), *Aristote et le mouvement des animaux. Dix études sur le De motu animalium* (Villeneuve d'Ascq) 67–79.
- Morrow, G. R. (1970) *Proclus. A Commentary on the First Book of Euclid's Elements* (Princeton).
- Morrow, G. R. and Dillon, J. M. (1987) *Proclus' Commentary on Plato's Parmenides*, (Princeton).
- Mueller, I. (2000) 'Syrianus and the Concept of Mathematical Number', in G. Bechtle and D. J. O'Meara (edd.), *La philosophie des mathématiques de l'Antiquité tardive. Actes du colloque International Fribourg, Suisse (24–26 septembre 1998)* (Fribourg Suisse) 71–83.

- Müller, I. von (1897) 'Über Galens Werk vom Wissenschaftlichen Beweis', *Abh. Bayer. Ak. d. Wiss. München* 20:403–78.
- Narbonne, J.-M. (1993) *Plotin. les deux matières* [Ennéade II 4 (12)], Introduction, texte grec, traduction et commentaire, Histoire des doctrines de l'antiquité classique 17 (Paris).
- (1998) *Plotin. Traité 25 [II 5]*, Introduction, traduction, commentaire et notes, Les écrits de Plotin (Paris).
- Natali, C. (1996) *Alessandro di Afrodisia. Il destino*, Classici del Pensiero. Filosofia Classica e Tardoantica (Milano).
- Nikulin, D. V. (2002) *Matter, Imagination, and Geometry. Ontology, Natural Philosophy, and Mathematics in Plotinus, Proclus and Descartes*, Ashgate New Critical Thinking in Philosophy (Aldershot).
- (2003) 'Physica more geometrico demonstrata: Natural Philosophy in Proclus and Aristotle', *Proceedings of the Boston Area Colloquium In Ancient Philosophy* 17:183–209.
- Nutton, V. (1987) 'Galen's Philosophical Testament: "On my own Opinions"', in J. Wiesner (ed.), *Aristoteles—Werk und Wirkung Paul Moraux gewidmet*, 2 (Berlin and New York) 27–51.
- (1999) *Galen. On my own Opinions*, Edition, Translation and Commentary, Corpus Medicorum Graecorum V.3.2 (Berlin).
- O'Brien, D. (1977) 'Le volontaire et la nécessité: réflexions sur la descente de l'âme dans la philosophie de Plotin', *Revue philosophique de la France et de l'étranger* 157:401–422.
- (1999) 'La matière chez Plotin: son origine, sa nature', *Phronesis* 44:45–71.
- O'Meara, D. J. (1989) *Pythagoras Revived. Mathematics and Philosophy in Late Antiquity* (Oxford).
- (2003) *Platonopolis: Platonic Political Philosophy in Late Antiquity* (Oxford).
- Opsomer, J. (1998) *In Search of the Truth. Academic Tendencies in Middle Platonism*, Verhandelingen van de Koninklijke Academie voor Wetenschappen, Letteren en Schone Kunsten van België, Klasse der letteren, jg. 60, Nr. 163 (Brussel).
- (2000) 'Proclus on Demiurgy and Procession: a Neoplatonic Reading of the *Timaeus*', in M. R. Wright (ed.), *Reason and Necessity. Essays on Plato's Timaeus* (London and Swansea) 113–143.
- (2004) 'Syrianus on Homonymy and Forms', in G. Van Riel and C. Macé (edd.), *Platonic Ideas and Concept Formation in Ancient and Medieval Thought*, Ancient and Medieval Philosophy. De Wulf-Mansion Centre, series 1, 32 (Leuven) 31–50.
- (2005) 'Plutarch's Platonism Revisited', in M. Bonazzi and V. Celluprica (edd.), *L'eredità platonica. Studi sul platonismo da Arcesilao a Proclo*, Elenchos 45 (Napoli) 161–200.
- (2006a) 'To Find the Maker and Father. Proclus' Exegesis of Plato, *Tim.* 28 c 3–5', *Études Platoniciennes* 2:261–283.
- (2006b) 'Was sind irrationale Seelen?' in M. Perkams and R. M. Piccione (edd.), *Proklos. Methode, Seelenlehre, Metaphysik*, Philosophia antiqua 98 (Leiden) 136–166.
- Opsomer, J. and Steel, C. (2003) *Proclus. On the Existence of Evils*, Ancient Commentators on Aristotle (London).
- Peacocke, C. (1998) 'The Modality of Freedom', in A. O'Hear (ed.), *Current Issues in Philosophy of Mind*, Royal Institute of Philosophy Supplement 43 (Cambridge) 349–375.
- Pellegrin, P. (2000) *Aristote. Physique*, Traduction inédite, introduction, notes et bibliographie (Paris).
- Perilli, L. (2000) 'La fortuna di Galeno filosofo. Un nuovo testimone dei commentari neoplatonici (*Scholia Valensia*) al *De Elementis*', in A. Brancacci (ed.), *La filosofia in età imperiale. Le scuole e le tradizioni filosofiche*, Elenchos 31, Napoli 2000, 85–135.
- Phillips, J. (1987) 'Stoic "Common Notions" in Plotinus', *Dionysius* 11:33–52.
- (1995) 'Plotinus and Iamblichus on *Proairesis*', *Ancient Philosophy* 15:135–153.
- Pines, S. (1953) 'Rāzī critique de Galien', in Actes du VII^e Congrès International d'Histoire des Sciences (Jerusalem) 480–487, reprinted in S. Pines, *Collected Works*,

- 2, *Studies in Arabic Versions of Greek Texts and in Mediaeval Science*, Jerusalem and Leiden 1986, 256–263.
- (1955) 'A Tenth Century Philosophical Correspondence', *Proceedings of the American Academy for Jewish Research* 24:103–136, reprinted in S. Pines, *Collected Works*, 5, *Studies in the History of Jewish Thought*, Jerusalem 1997.
- (1960) 'Omne quod movetur necesse est ab aliquo moveri: A Refutation of Galen by Alexander of Aphrodisias and the Theory of Motion', *Isis* 52:21–54, reprinted in S. Pines, *Collected Works*, 2, *Studies in Arabic Versions of Greek Texts and in Mediaeval Science*, Jerusalem and Leiden 1986, 218–251.
- (1986) *Collected Works*, 2, *Studies in Arabic Versions of Greek Texts and in Mediaeval Science* (Jerusalem and Leiden).
- Politis, V. (2004) *Aristotle and the Metaphysics*, Routledge Philosophy Guidebooks (London).
- Praechter, K. (1910) 'Richtungen und Schulen im Neuplatonismus', in *Genethliakon für Carl Robert*, (Berlin) 105–156, reprinted in K. Praechter, *Kleine Schriften*, hrsg. von H. Dörrie, *Collectanea* 7, Hildesheim-New York 1973, 165–216.
- Radke, G. (2003) *Die Theorie der Zahl im Platonismus. Ein systematisches Lehrbuch* (Tübingen and Basel).
- Rashed, M. (1995) 'Alexandre d'Aphrodise et la "Magna Quaestio". Rôle et indépendance des scholies dans la tradition byzantine du corpus aristotélicien', *Les Études Classiques* 63:295–351, reprinted in M. Rashed, *L'héritage Aristotélicien. Textes inédits de l'Antiquité*, Anagôgê, Paris 2007, 85–141.
- (1997) 'A "New" Text of Alexander on the Soul's Motion', in R. Sorabji (ed.), *Aristotle and After*, Bulletin of the Institute of Classical Studies, Supplement 68 (London) 181–195, reprinted in M. Rashed, *L'héritage Aristotélicien. Textes inédits de l'Antiquité*, Anagôgê, Paris 2007, 143–157.
- (2000) 'Alexandre d'Aphrodise lecteur du *Protreptique*', in J. Hamesse (ed.), *Les prologues médiévaux*, Fédération Internationale des Instituts d'Études Médiévales. Textes et études du Moyen Âge 15 (Turnhout) 1–37, reprinted in M. Rashed, *L'héritage Aristotélicien. Textes inédits de l'Antiquité*, Anagôgê, Paris 2007, 179–215.
- (2002) 'La classification des lignes simples selon Proclus et sa transmission au monde islamique', in C. D'Ancona and G. Serra (edd.), *Aristotele e Alessandro di Afrodisia nella tradizione araba. Atti del colloquio 'La ricezione araba ed ebraica della filosofia e della scienza greche'*, Padova, 14–15 maggio 1999, *Subsidia Mediaevalia Patavina* 3 (Padova) 257–279, reprinted in M. Rashed, *L'héritage Aristotélicien. Textes inédits de l'Antiquité*, Anagôgê, Paris 2007, 303–325.
- (2004) 'Priorité de l'εἶδος ou du γένος entre Andronicos et Alexandre. Vestiges arabes et grecs inédits', *Arabic Sciences and Philosophy* 14:9–63, reprinted in M. Rashed, *L'héritage Aristotélicien. Textes inédits de l'Antiquité*, Anagôgê, Paris 2007, 29–83.
- (2007a) *Essentialisme. Alexandre d'Aphrodise entre logique, physique et cosmologie*, Commentaria in Aristotelem Graeca et Byzantina. Quellen und Studien 2 (Berlin and New York).
- (2007b) 'Vestiges d'un commentaire alexandrin au *De caelo* d'Aristotele', in M. Rashed, *L'héritage Aristotélicien. Textes inédits de l'Antiquité*, Anagôgê, Paris 2007, 219–267.
- Rashed, R. (2005) 'Les premières classifications des courbes', *Physis* 42:1–64.
- Reinhardt, K. (1926) *Kosmos uns Sympathie. Neue Untersuchungen über Posidonius* (München).
- Rescher, N. and Marmura, M. E. (1965) *The Refutation by Alexander of Aphrodisias of Galen's Treatise on the Theory of Motion* (Islamabad).
- Rescigno, A. (2004) *Alessandro di Afrodisia. Commentario al De Caelo di Aristotele. Frammenti del primo libro*, Supplementi di Lexis 21 (Amsterdam).
- Rist, J. (1975) 'Proairesis: Proclus, Plotinus and alii', in *De Jamblique a Proclus*, *Entretiens sur l'Antiquité Classique* 21 (Genève) 103–122.
- Ritzenfeld, A. (1912) *Πρόκλου Διαδόχου Λυκίου Στοιχείωσις φυσική. Procli Diadochi Lycii Institutio physica* (Leipzig).

- Romano (1991) *Natura e destino nel neoplatonismo*, in *Ethos e cultura. Studi in onore di Ezio Riondato* (Padova) 129–161, reprinted in F. Romano, *L'uno come fondamento. La crisi dell'ontologia classica. Raccolta di studi rari e inediti*, a cura di G. R. Giardina, Catania 2004, 217–245.
- Rosán, L. J. (1949) *The Philosophy of Proclus. The Final Phase of Ancient Thought* (New York).
- Ross, W. D. (1936) *Aristotle's Physics. A Revised Text with Introduction and Commentary* (Oxford).
- Russi, C. (2005) 'Provvidenza, *logos* connettivo e *logos* produttivo. Le tre funzioni dell'anima in *Enn.* III 3 [48], 4.6–13', in R. Chiaradonna (ed.), *Studi sull'anima in Plotino*, *Elenchos* 42 (Napoli) 59–78.
- Rutten, Ch. (1961) *Les catégories du monde sensible dans les Ennéades de Plotin* (Paris).
- Sabra, A. I. (1997) 'Thābit ibn Qurra on the Infinite and Other Puzzles. Edition and Translation of his Discussions with Ibn Usayyid', *Zeitschrift für Geschichte der arabisch-islamischen Wissenschaften* 11:1–33.
- Saffrey, H. D. and Segonds, A.-Ph. (2001) *Marinus. Proclus ou sur le bonheur*, Texte établi, traduit et annoté, avec la collaboration de C. Luna, Collection des Universités de France (Paris).
- Saffrey, H. D. and Westerink, L. G. (1968) *Proclus. La Théologie Platonicienne*, Texte établi et traduit, 1, *Livre I*, Collection des Universités de France (Paris).
- (1974) *Proclus. La Théologie Platonicienne*, Texte établi et traduit, 2, *Livre II*, Collection des Universités de France (Paris).
- (1978) *Proclus. La Théologie Platonicienne*, Texte établi et traduit, 3, *Livre III*, Collection des Universités de France (Paris).
- (1981) *Proclus. La Théologie Platonicienne*, Texte établi et traduit, 4, *Livre IV*, Collection des Universités de France (Paris).
- (1987) *Proclus. La Théologie Platonicienne*, Texte établi et traduit, 5, *Livre V*, Collection des Universités de France (Paris).
- (1997) *Proclus. La Théologie Platonicienne*, Texte établi et traduit, 6, *Livre VI*, Collection des Universités de France (Paris).
- Sambursky, S. (1962) *The Physical World of Late Antiquity*, (London).
- Sandbach, F. (1969) *Plutarch's Moralia*, XV, *Fragments*, Loeb Classical Library (Cambridge MA).
- Schmitz, M. (1997) *Euklids Geometrie und ihre mathematiktheoretische Grundlegung in der neuplatonischen Philosophie des Proklos* (Würzburg).
- Schrenk, L. P. (1989) 'Proclus on Space and Light', *Ancient Philosophy* 9:87–94.
- Schwyzer, H.-R. (1973) 'Zu Plotins Deutung der sogenannten platonischen Materie', in *Zethesis*, Festschrift É. de Strycker (Antwerpen-Utrecht) 266–280.
- Scott, D. (1987) 'Platonic Anamnesis Revisted', *The Classical Quarterly* ns. 37:346–366.
- Sedley, D. N. (1992) 'Sextus Empiricus against the Atomist Criteria of Truth', *Elenchos* 13:19–56.
- Segonds, A. (1968) 'Index Général', in A. J. Festugière, *Proclus. Commentaire sur le Timée*, 5, *Livre V*, Bibliothèque des textes philosophiques (Paris) 249–277.
- Sharples, R. W. (1982) 'Alexander of Aphrodisias *On Time*', *Phronesis* 27:58–81.
- (1987) *Alexander of Aphrodisias: Scholasticism and Innovation*, in *ANRW II* 36.2 (Berlin and New York) 1176–1243.
- (1992) *Alexander of Aphrodisias. Quaestiones 1.1–2.15*, Ancient Commentators on Aristotle (London).
- (2005) 'Alexander of Aphrodisias on Universals. Two Problematic Texts', *Phronesis* 50:43–55.
- Siorvanes, L. (1996) *Proclus. Neo-Platonic Philosophy and Science* (Edinburgh).
- Sleeman, J. H. (†) and Pollet, G. (1980) *Lexicon Plotinianum*, Ancient and Medieval Philosophy. De Wulf-Mansion Centre, series 1, 2 (Leuven).
- Solignac, A. (1962) *Saint Augustin. Les Confessions. Livres VIII–XIII*, Texte de l'édition de

- M. Skutella, introduction et notes par A. Solignac, traduction de E. Tréhorel (†) et G. Bouissou, Bibliothèque Augustinienne 14 (Paris).
- Sorabji, R. (1983) *Time, Creation and the Continuum. Theories in Antiquity and the Early Middle Ages* (London).
- (1988) *Matter, Space & Motion. Theories in Antiquity and their Sequel*, (London).
- (1990) 'The Ancient Commentators on Aristotle', in R. Sorabji (ed.), *Aristotle Transformed: The Ancient Commentators and their Influence* (London) 1–30.
- (1992) 'Introduction', in J. O. Urmson and L. Siorvanes, *Simplicius. Corollaries on Place and Time*, Ancient Commentators on Aristotle (London) 1–10.
- (2003) *Preface*, in R. B. Todd, *Themistius. On Aristotle's Physics 4*, Ancient Commentators on Aristotle (Ithaca, NY) vii–ix.
- (2004) *The Philosophy of the Commentators, 200–600 AD. A Sourcebook*, 2, *Physics* (London).
- Spinelli, E. (2003) 'La semiologia del cielo. Astrologia e anti-astrologia in Sesto Empirico e Plotino', in A. Pérez Jiménez, R. Caballero (edd.), *Homo mathematicus (Actas del Congreso Internacional sobre Astrólogos Griegos y Romanos celebrado en Benalmádena [Málaga], 8–10 octubre 2001)* (Málaga) 275–300.
- Steel, C. (1978) *The Changing Self. A Study on the Soul in Later Neoplatonism: Iamblichus, Damascius and Priscianus*, Verhandelingen van de Koninklijke Academie voor Wetenschappen, Letteren en Schone Kunsten van België, Klasse der Letteren, Jaargang XL, Nr. 85 (Brussel).
- (1985) *Proclus. Commentaire sur le Parménide de Platon. Traduction de Guillaume de Moerbeke*, Édition critique par C. Steel suivie de l'édition des extraits du *Commentaire sur le Timée*, traduits par Moerbeke, 2, *Livres V à VII et Notes marginales de Nicolas de Cues*, Ancient and Medieval Philosophy. De Wulf-Mansion Centre, series 1, 4 (Leuven).
- (1987a) *L'anagorie par les apories*, in J. Boss and G. Seel (edd.), *Proclus et son influence. Actes du Colloque de Neuchâtel (juin 1985)* (Zürich) 101–128.
- (1987b) '«Omnis corporis potentia est finita.» L'interprétation d'un principe aristotélicien: de Proclus à S. Thomas', in J. P. Beckmann, L. Honnefelder, G. Schrimpf et al. (edd.), *Philosophie im Mittelalter. Entwicklungslinien und Paradigmen* (Hamburg) 213–224.
- (1987c) 'Proclus et Aristote sur la causalité efficiente de l'intellect divin', in J. Pépin and H. D. Saffrey (edd.), *Proclus, lecteur et interprète des anciens. Actes du colloque international du CNRS, Paris (2–4 octobre 1985)* (Paris) 213–225.
- (1996) 'Puissance active et puissance réceptive chez Proclus', in F. Romano and L. Cardullo (edd.), *Dunamis nel Neoplatonismo*, Symbolon 16 (Firenze) 121–137.
- (2002) 'Neoplatonic versus Stoic Causality: The Case of the Sustaining Cause («sunektikon»)', *Quaestio* 2:77–93.
- (2003) 'Why Should we Prefer Plato's *Timaeus* to Aristotle's *Physics*? Proclus' Critique of Aristotle's Causal Explanation of the Physical World', in R. W. Sharples and Anne Sheppard (edd.), *Ancient Approaches to Plato's Timaeus*, Bulletin of the Institute of Classical Studies Supplement 78 (London) 175–187.
- (2005) 'Proclus' Defence of the *Timaeus* against Aristotle's Objections. A Reconstruction of a Lost Polemical Treatise', in Th. Leinkauf and C. Steel (edd.), *Platons Timaios als Grundtext der Kosmologie in Spätantike, Mittelalter und Renaissance*, Ancient and medieval philosophy. De Wulf-Mansion Centre, series 1, 34 (Leuven) 163–193.
- (2006) 'Proklos über Selbstreflexion und Selbstbegründung', in M. Perkams and R. M. Piccione (edd.), *Proklos. Methode, Seelenlehre, Metaphysik*, Philosophia antiqua 98 (Leiden) 230–255.
- (2007a) *Procli. In Platonis Parmenidem Commentaria*, t. I libros I–III continens, ed. C. Steel, C. Macé, P. d'Hoine, Scriptorum Classicorum Bibliotheca Oxoniensis (Oxford).
- (2007b) *Proclus. On Providence*, Ancient Commentators on Aristotle (Ithaca, NY).
- (2007c) *Proclus on divine figures. An Essay on Pythagorean-Platonic Theology*, in

- M. Bonazzi, C. Levy and C. Steel (edd.), *A Platonic Pythagoras. Platonism and Pythagoreanism in the Imperial Age*, *Monothéismes et Philosophie* 10 (Turnhout) 215–242.
- (2008) *Procli In Platonis Parmenidem Commentarie*, t.II libros IV–V continens, ed. C. Steel, *Scriptorum Classicorum Bibliotheca Oxoniensis* (Oxford).
- Strange, S. K. (1987) 'Plotinus, Porphyry, and the Neoplatonic Interpretation of the *Categories*', *ANRW II* 36.2 (Berlin and New York) 955–974.
- (1994) 'Plotinus on the Nature of Eternity and Time', in L. P. Schrenk (ed.), *Aristotle in Late Antiquity*, *Studies in Philosophy and the History of Philosophy* 27 (Washington D.C.) 23–53.
- Strohmaier, G. (1968) 'Demokrit über die Sonnenstäubchen. Ein neues Fragment in arabischer Überlieferung', *Philologus* 112:1–19, reprinted in G. Strohmaier, *Von Demokrit bis Dante*, *Olms Studien* 43 (Hildesheim) 3–21.
- (1998) 'Bekannte und unbekannte Zitate in den *Zweifeln an Galen* des Rhazes', in K. D. Fischer, D. Nickel and P. Potter (edd.), *Text and Tradition. Studies in Ancient Medicine and its Transmission. Presented to Jutta Kollesch*, *Studies in Ancient Medicine* 18 (Leiden) 263–87.
- (2003) 'Die Ethik Galens und ihre Rezeption in der Welt des Islams', in J. Barnes and J. Jouanna (edd.), *Galen et la philosophie*, *Entretiens sur l'Antiquité Classique* 49 (Genève) 307–326 ('Discussion' 327–329).
- Tarrant, H. (1985) *Scepticism or Platonism? The Philosophy of the Fourth Academy*, *Cambridge Classical Studies* (Cambridge).
- (1993) *Thrasyllan Platonism* (Ithaca, NY).
- Taylor, A. E. (1928) *A Commentary on Plato's Timaeus* (Oxford).
- Theiler, W. (1946) *Tacitus und die Antike Schicksalslehre* (Basel).
- (1964) *Die Vorbereitung des Neuplatonismus*, *Problemata* 1 (Berlin and Zürich).
- Tieleman, T. (1996a) *Galen and Chrysippus on the Soul: Argument and Refutation in the De Placitis Books II–III*, *Philosophia Antiqua* 68 (Leiden).
- (1996b) 'Galen's Concept of Dialectic and the Middle Platonist Background: The Argument of *PHP* Book II', in M. Vegetti and S. Gastaldi (edd.), *Studi di storia della medicina antica e medievale in memoria di Paola Manuli*, *Pubblicazioni della Facoltà di Lettere e Filosofia dell'Università di Pavia* 79 (Firenze) 49–65.
- (1998) 'Plotinus on the Seat of the Soul: Reverberations of Galen and Alexander in *Enn.* IV3[27], 23', *Phronesis* 43:306–25.
- Tobin, T. H. (1985) *Timaios of Locri. On the Nature of the World and the Soul*, *Texts and Translations* 26, *Graeco-Roman Religion Series* 8 (Chico).
- Todd, R. B. (1977) 'Galenic Medical Ideas in the Greek Aristotelian Commentators', *Symbolae Osloenses* 52:117–134.
- (2003) *Themistius. On Aristotle's Physics 4*, *Ancient Commentators on Aristotle* (Ithaca, NY).
- Tornau, Ch. (1998) *Plotin. Enneaden VI 4–5. Ein Kommentar*, *Beiträge zur Altertumskunde* 113 (Stuttgart and Leipzig).
- Tweedale, M. (1984) 'Alexander of Aphrodisias' Views on Universals', *Phronesis* 29:279–303.
- Urmson, J. O. (1992) *Simplicius. On Aristotle Physics 4.1–5–5.10–14*, *Ancient Commentators on Aristotle* (London).
- Urmson, J. O. and Siorvanes, L. (1992) *Simplicius. Corollaries on Place and Time*, *Ancient Commentators on Aristotle* (London).
- Van den Berg, R. M. (2004) '"A Remark of Genius and Well Worthy of Platonic Principles": Proclus' Criticism of Porphyry's Semantic Theory', in G. Van Riel and C. Macé (edd.), *Platonic Ideas and Concept Formation in Ancient and Medieval Thought*, *Ancient and Medieval Philosophy. De Wulf-Mansion Centre, Series 1*, 32 (Leuven) 155–169.
- Van der Eijk, P. J. (2003) *Philooponus. On Aristotle On the Soul 1.1–2*, *Ancient Commentators on Aristotle* (London).

- Van Riel, G. (2000) 'Ontologie et théologie. Le *Philèbe* dans le troisième livre de la *Théologie Platonicienne* de Proclus', in A.-Ph. Segonds and C. Steel (edd.), *Proclus et la Théologie Platonicienne. Actes du Colloque International de Louvain (13–16 mai 1998). En l'honneur de H. D. Saffrey et L. G. Westerink* (Leuven and Paris) 399–413.
- (2001) 'Horizontalism or Verticalism? Proclus vs. Plotinus on the Procession of Matter' *Phronesis* 46:129–153.
- Vegetti (1981) 'Modelli di medicina in Galeno', in V. Nutton (ed.), *Galen: Problems and Prospects* (Cambridge) 47–63.
- (1986) 'Tradizione e verità. Forme della storiografia filosofico-scientifica nel *De placitis* di Galeno', in G. Cambiano (ed.), *Storiografia e dossografia nella filosofia antica* (Turin) 227–244.
- (1994a) 'L'immagine del medico e lo statuto epistemologico della medicina in Galeno', *ANRW II* 37.2 (Berlin and New York) 1672–1717, reprinted in M. Vegetti, *Dialoghi con gli antichi*, ed by S. Gastaldi, F. Calabi, S. Campese and F. Ferrari, *Studies in Ancient Philosophy* 8, Sankt Augustin 2007, 227–278.
- (1994b) 'Enciclopedia ed antienciclopedia: Galeno e Sesto Empirico', in G. Cambiano, L. Canfora and D. Lanza (edd.), *Lo spazio letterario della Grecia antica*, 1.3 (Roma) 333–359.
- Vuillemin, J. (1991) 'The Systems of Plato and Aristotle Compared as to their Contributions to Physics', in W. Spohn, B. C. Van Fraassen and Brian Skyrms (edd.), *Existence and Explanation. Essays presented in Honor of Karel Lambert* (Dordrecht, Boston and London) 197–206.
- (2000) 'Aristote, débiteur de Zénon', in O. K. Wiegand et al. (edd.), *Phenomenology on Kant, German Idealism, Hermeneutics and Logic*, *Contributions to Phenomenology* (Dordrecht, Boston and London) 209–222.
- Wagner, M. F. (1982) 'Vertical Causation in Plotinus', in R. Baine Harris (ed.), *The Structure of Being: A Neoplatonic Approach*, *Studies in Neoplatonism* 4 (Albany, NY) 51–72.
- (1985) 'Realism and the Foundations of Science in Plotinus', *Ancient Philosophy* 5:269–292.
- (1996) 'Plotinus on the nature of physical reality', in L. P. Gerson, *The Cambridge Companion to Plotinus*, *Cambridge Companions* (Cambridge) 130–170.
- (2002) 'Plotinus, Nature, and the Scientific Spirit', in M. F. Wagner (ed.), *Neoplatonism and Nature. Studies in Plotinus' Enneads*, *Studies in Neoplatonism* 8 (Albany, NY).
- Westerink, L. G. (1976) *The Greek Commentaries on Plato's Phaedo*, I, *Olympiodorus*, *Verhandelingen der Koninklijke Nederlandse Akademie van Wetenschappen, Afd. Letterkunde*, N.R., deel 92 (Amsterdam).
- (1977) *The Greek Commentaries on Plato's Phaedo*, II, *Damascius*, *Verhandelingen der Koninklijke Nederlandse Akademie van Wetenschappen, Afd. Letterkunde*, N.R., deel 93 (Amsterdam).
- White, M. J. (1992) *The Continuous and the Discrete. Ancient Physical Theories from a Contemporary Perspective* (Oxford).
- Wilberding, J. (2006) *Plotinus' Cosmology. A Study of Ennead II.1 (40)*, Text, Translation, and Commentary (Oxford).
- Wolff, M. (1987) 'Philoponus and the Rise of Preclassical Dynamics', in R. Sorabji (ed.), *Philoponus and the Rejection of Aristotelian Science* (Ithaca, NY) 84–120.
- (1988) 'Hipparchus and the Stoic Theory of Motion', in J. Barnes and M. Mignucci (edd.), *Matter and Metaphysics*, *Elenchos* 14 (Napoli) 471–545.
- Wurm, K. (1973) *Substanz und Qualität: Ein Beitrag zur Interpretation der plotinischen Traktate VI 1, 2 und 3*, *Quellen und Studien zur Philosophie*, 5 (Berlin and New York).
- Zeller, E. (1923) *Die Philosophie der Griechen in ihrer geschichtlichen Entwicklung dargestellt*, 3/2, 5. Aufl. (Leipzig).
- Zeyl, D. J. (2000) *Plato. Timaeus*, Translated, with Introduction (Indianapolis and Cambridge).

INDEX OF ANCIENT AND MEDIEVAL AUTHORS

- Aischines: 260
 Alcinous: 69, 105
 Alexander of Aphrodisias: 6–7, 9, 12,
 19, 26, 36, 48–50, 55–59, 60, 62–65,
 71, 76, 175, 179–180, 183, 187, 271
 Amelius: 87
 Ammonius: 191, 199
 Antiochus of Ascalon: 52, 69–70, 86,
 105
 Archimedes: 25, 28
 Archytas: 28, 31
 Aristotle: 1, 3–6, 8–10, 12, 17–19,
 25–32, 34–35, 38, 41–42, 44, 46–47,
 49, 52–62, 67, 70, 72–75, 79–81, 85,
 89–96, 98–100, 101, 104, 107, 112,
 115–116, 121–122, 124–126, 129,
 135, 141, 143, 146, 148, 166–167,
 174–175, 177–180, 189–196,
 198–203, 206–208, 211, 213–214,
 220, 224, 227–228, 231, 235, 238,
 247, 255, 260–261, 264, 266, 271,
 275, 278–279
 Asclepiades of Bithynia: 46
 Asclepius: 199
 Atticus: 43, 58, 68, 71, 87, 147, 181,
 246, 247
 Augustine: 10, 101, 102, 108, 118–119,
 216
 Calcidius: 271–272
 Chrysippus: 41
 Clitomachus: 70
 Damascius: 1, 75, 166, 235, 236, 238,
 239, 254, 261, 271, 279
 Demosthenes: 260
 Elias: 31–32
 Epictetus: 70
 Epicurus: 103–104, 106–108, 110, 114,
 118, 120, 124
 Euclides: 13, 17, 63, 263 n.
 Eutocius: 29, 31–32
 Favorinus of Arlate: 45, 70
 Galen: 6, 9, 15, 43–78, 122
 Gerard of Cremona: 56
 Heraclides of Pontus: 271
 Hipparchus: 20
 Hippocrates: 60, 70
 Hunayn ibn Ishāq: 56, 69
 Iamblichus: 122, 166–167, 184, 272
 Ibn Abī Saʿīd: 56, 60
 Ibn al-Nadīm: 56
 Ibn Rushd: 30
 Isaac Sebastocrator: 182
 Lucius: 91
 Lucretius: 103, 124
 Marinus of Neapolis: 253
 Nemesius of Emesa: 43, 46
 Nicostratus: 147
 Numenius of Apamea: 43, 71, 83, 181
 Philo: 264
 Philoponus: 43, 45–46, 54, 57, 66–68,
 210
 Plato: 1, 3–6, 10, 12–13, 28, 38, 44,
 52, 56–57, 67–70, 79–80, 83, 85–87,
 91, 100–101, 106, 109–111, 114,
 116–117, 119, 122, 124, 135, 138,
 143, 146, 150, 174, 177, 181–183,
 186, 189–191, 199, 202–203, 208,
 210–211, 214, 216, 218, 221–222,
 226, 228, 231–235, 237–238, 240,
 246, 250, 253–255, 260–265, 267,
 271–274
 Pliny the Elder: 267
 Plotinus: 1, 2, 4–6, 8–11, 14, 17, 26,
 29, 34–42, 69, 71–76, 79–100,
 101–120, 121–143, 145–151,
 154–156, 159–171, 180, 185,
 188–189, 220, 222, 227, 267–270,
 277
 Plutarch: 70–71, 86–87, 111, 246–247,
 264
 Porphyry: 2–6, 10, 52, 65–66, 71, 76,
 87, 91, 100, 112, 122–123, 133, 183,
 259, 273
 Posidonius: 71, 260
 Proclus: 1, 3, 5, 9–14, 29, 33, 39–40,
 102, 198, 115–118, 120, 122

- 147–149, 154–156, 158–159,
162, 164, 166–169, 171, 175–187,
189–229, 231–257, 259–281
Ptolemy: 6, 8, 17, 19–33, 37–38, 40–42,
52, 66, 76, 122
al-Rāzī: 43, 46, 54, 56, 60, 66, 67
Seneca: 267
Severus, 147, 211
Sextus Empiricus: 52, 70
Simplicius: 5, 8–9, 17, 19, 29–35,
37–41, 43, 45, 54–55, 57–59, 61, 66,
71, 74–75, 112, 166–167, 185, 191,
199, 210, 214, 235, 239, 254, 260
Stobaeus: 184
Syrianus: 116–117, 166, 199, 235, 243,
254
Tertullian: 119
Thābit ibn Qurra: 56
Themistius: 9, 30, 43, 45, 54–55, 57–61,
66, 74–75
Theophrastus: 19, 44, 53, 167, 259–260,
263
William of Moerbeke: 221, 244
Xenarchus: 8, 17–19, 26, 29, 34–35,
37–38, 40, 42
Xenocrates: 218
Yaḥyā ibn ‘Adī: 56

INDEX OF MODERN AUTHORS

- Accattino, P.: 58
 Adamson, P.: 16
 Adler, A.: 260
 Alaoui, J.: 30
 Algra, K.: 66
 Andolfo, M.: 152
 Armstrong, A. H.: 82, 84, 87, 93–95,
 113, 121, 125, 130–131, 135,
 145–146, 268–270
 Asmis, E.: 102–103
 Aubry, G.: 16

 Ballériaux, O.: 74
 Baltes, M.: 58, 68, 105, 180, 242, 264,
 272
 Baltzly, D.: 276
 Barigazzi, A.: 45, 70
 Barnes, J.: 44, 47–49, 51, 53, 59, 61, 70,
 173, 177
 Bechtel, G.: 221
 Beierwaltes, W.: 1, 106, 215, 222
 Berti, E.: 74
 Bertier, J.: 220
 Beutler, R.: 138
 Bidez, J.: 281
 Blumenthal, H.: 74
 Bobzien, S.: 49
 Boese, H.: 225
 Bonazzi, M.: 16, 70–71
 Bonelli, M.: 49
 Bostock, D.: 194, 218
 Boudon, V.: 43–44, 50–51, 53–54,
 69–71
 Boys-Stones, G.: 70
 Bréhier, É.: 1–3, 146
 Breton, S.: 218
 Brisson, L.: 16, 122, 183, 220
 Brittain, Ch.: 62, 65, 102, 112, 114–115
 Broadie, S.: 174
 Bruns, I.: 187
 Brunschwig, J.: 44
 Burnyeat, M.: 53, 64, 79
 Bury, R.: 174, 186

 Campbell, K.: 137
 Carroll, W. J.: 136
 Cellucci, C.: 48

 Celluprica, V.: 16
 Chadwick, H.: 118–119
 Cherniss, H.: 270–271
 Chiaradonna, R.: 1–16, 39, 40–42,
 43–77, 79, 81–83, 89, 92, 96, 98,
 105–106, 110, 112, 114–115, 120,
 147
 Chvatal, L.: 16
 Claghorn, G.: 270
 Cleary, J.: 215, 220, 225
 Coleridge, S. T.: 138–139
 Cornford, F. M.: 105, 262, 270
 Corrigan, K.: 95, 130–131, 136–137
 Creuzer, F.: 138
 Croce, B.: 46

 D’Ancona, C.: 7
 Deck, J.: 121–122, 128, 130
 De Haas, F. A. J.: 16, 63, 65, 77, 135,
 242–243
 De Lacy, Ph.: 51, 64, 185
 Descartes, R.: 53 n.
 Des Places, É.: 16
 D’Hoine, P.: 16
 Diehl, E.: 277
 Diels, H.: 366
 Dillon, J.: 116, 221, 244, 248, 250, 272
 Dodds, E. R.: 130, 138, 156–157, 177,
 185, 201–202, 206–207, 213
 Donini, P.: 6, 49, 64, 69, 71, 147, 175,
 179
 Dörrie, H.: 2–3, 58, 68, 105, 180
 Dragona-Monachou, M.: 175, 180

 Earman, J.: 101
 Einarson, B.: 185
 Emilsson, E. K.: 72, 88–89, 164

 Falcon, A.: 17–19, 35–36, 175
 Fattal, M.: 161
 Fazzo, S.: 57–58, 67
 Ferrari, E.: 71
 Festugière, A. J.: 5, 179–180, 184, 216,
 242, 266, 273, 277
 Flannery, K.: 49
 Flasch, K.: 118, 216
 Fleet, B.: 89, 112–113

- Fortuna, S.: 51
 Franco Repellini, F.: 174
 Frede, M.: 4, 9, 44, 48, 54, 67, 69,
 70–71, 80, 102
 Gale, R. M.: 101
 Gersh, S.: 227–228
 Gerson, L. P.: 89, 121
 Ghidini, M. T.: 107
 Giardina, G. R.: 16
 Gill, M. L.: 190, 214
 Golitsis, P.: 16
 Gottschalk: 57
 Graham, D.: 198
 Gritti, E.: 16
 Grube, G. M. A.: 277
 Guldentops, G.: 270–271
 Hadot, P.: 81, 149
 Halfwassen, J.: 1, 214
 Hankinson, R. J.: 48, 50, 52–53,
 63–64, 69–70, 75
 Harari, O.: 220, 224–225
 Harder, R.: 128
 Hartmann, N.: 218
 Hathaway, R. F.: 122
 Hegel, G. W. F.: 1
 Heiberg, J. L.: 22–23, 28
 Helmig, Ch.: 18, 211–212
 Henry, P.: 40, 104, 130, 138, 145
 Hoffmann, Ph.: 75
 Horn, Ch.: 4, 220, 261
 Husserl, E.: 118
 Ierodiakonou, K.: 49–51
 Igal, J.: 165
 Ilberg, J.: 69
 Ioppolo, A. M.: 70, 77
 Isaac, D.: 176
 Jaeger, W.: 43, 72
 Johansen, T. K.: 234
 Jouanna, J.: 60
 Judson, L.: 191
 Kalbfleisch, K.: 69
 Kalligas, P.: 79, 83, 89, 91–92,
 97
 Karamanolis, G.: 4, 9–10, 16, 66,
 79–100, 105, 120, 147
 Karfik, F.: 16
 Kern, O.: 182, 264, 278
 Kirchhoff, A.: 40
 Kollesch, J.: 70
 Kotzia-Panteli, P.: 62, 112
 Kovačić, F.: 58
 Kraus, P.: 56
 Kühn, C. G.: 43
 Kupreeva, I.: 16, 75, 80, 202
 Kutasch, E. F.: 193, 208
 Landauer, S.: 30
 Lask, E.: 46
 Laurent, J.: 267
 Lee, J. S.: 122
 Lee, T. S.: 48
 Lefebvre, D.: 90 n.
 Lejeune, A.: 29
 Leroux, G.: 165
 Lewy, H.: 277
 Linguisti, A.: 8, 11, 16, 36, 158,
 173–188, 193, 201
 Lloyd, G. E. R.: 50
 Long, A. A.: 52, 76, 103–104, 180,
 234
 Majumdar, D.: 122, 137
 Manitijs, C.: 23
 Manuwald, B.: 190, 205
 Mansfeld, J.: 45, 180, 199
 Marcovich, M.: 103
 Marmura, M. E.: 46
 Martijn, M.: 16
 McGuire, J. E.: 105–106, 110, 114
 Meijering, E. P.: 119
 Miller, D.: 234
 Mohaghegh, M.: 56, 66–67
 Moraux, P.: 6, 30, 51, 56, 58
 Morel, P.-M.: 103
 Morison, B.: 166, 190
 Morrow, G. R.: 116, 217, 220–221, 244,
 248, 250
 Mueller, I.: 221
 Mueller-Jourdan, P.: 16
 Mugler, Ch.: 221
 Müller, H. F.: 130
 Müller, I. von: 43, 45–47, 62
 Narbonne, J.-M.: 136, 146, 149,
 169–170
 Natali, C.: 175
 Nauck, A.: 260, 275
 Nehamas, A.: 272
 Neugebauer, O.: 23
 Nickel, D.: 70
 Nikulin, D.: 193, 197, 218, 219–220,
 228
 Nutton, V.: 57, 71

- O'Brien, D.: 92, 136, 165
 O'Meara, D. J.: 3, 16, 122, 143, 19
 Opsomer, J.: 12, 16, 70, 122, 149, 157, 171, 189–229, 249, 251
 Parthey, G.: 184
 Parvu, I.: 12
 Patzig, G.: 80
 Peacocke, C.: 85
 Pellegrin, P.: 55
 Perilli, L.: 43
 Phillips, J.: 104–107, 109, 111, 165
 Pietrobelli, A.: 71
 Pines, S.: 2, 43, 46, 56
 Politis, V.: 105
 Pollet, G.: 95, 107, 137
 Praechter, K.: 1
 Radke, G.: 224
 Rashed, M.: 6–9, 16, 17–42, 43, 49, 55–57, 60, 63, 65, 71, 77, 202, 215
 Rashed, R.: 41
 Reinhardt, K.: 72
 Rescher, N.: 46
 Rescigno, A.: 17, 57, 68
 Rist, J.: 165
 Ritzenfeld, A.: 193
 Romano, F.: 175, 184
 Ronan, S.: 281
 Rosán, S.: 157, 185
 Ross, W. D.: 198
 Runia, D.: 199
 Russi, C.: 10, 11, 16, 145–171, 229
 Rutten, Ch.: 92
 Ryan, P.: 274
 Sabra, A. I.: 56
 Saffrey, H. D.: 181, 253
 Sambursky, S.: 17
 Sandbach, F.: 111
 Schelling, F. W. J.: 1
 Schmitz, M.: 224
 Schrenk, L.: 167
 Schwyzer, H.-R.: 40, 104, 130, 136, 138, 145
 Scott, D.: 111
 Sedley, D. N.: 52, 103–104, 175
 Segonds, A.: 5–6, 253
 Sharples, R. W.: 56, 63, 175, 187
 Siorvanes, L.: 156, 166, 174, 177, 185, 193, 260
 Slecman, J. H.: 95, 107, 137
 Smith, A.: 3, 65, 136
 Solignac, A.: 119
 Sorabji, R.: 3–4, 16, 56, 62, 74, 166–167, 179, 190, 197–200, 210, 213, 216, 235, 239
 Spinelli, E.: 163
 Steel, C.: 13, 16, 115, 122, 148–149, 156–157, 176–178, 181, 185, 192, 196–199, 202, 208, 221, 223, 227, 238, 243–244, 248, 251, 255, 259–281
 Strange, S. K.: 73, 81, 105–110, 114
 Strohmaier, G.: 43, 46, 56, 66–67
 Tarrant, H.: 52
 Taylor, A. E.: 262, 270
 Theiler, W.: 71, 180, 260, 267, 269
 Tieleman, T.: 67, 69, 72
 Tobin, T. H.: 263
 Todd, R. B.: 43, 57, 61
 Tornau, Ch.: 16, 154
 Trabattoni, F.: 1–16
 Tweeddale, M.: 63
 Urmson, J.: 68 n., 75 n.
 Van den Berg, R. M.: 10, 12, 101–120, 188
 Van der Eijk, P. J.: 43
 Van Riel, G.: 12, 16, 135, 149, 168, 181, 184–185, 194, 218, 231–257
 Vegetti, M.: 50, 59, 70
 Viano, C.: 16
 Vuillemin, J.: 33, 38, 41, 189–190
 Wagner, M. F.: 92, 122, 145, 170, 173, 187–188
 Walzer, R.: 56
 Waszink, J. H.: 271
 Westerink, L.: 181, 202, 261, 266, 277, 279
 White, M. J.: 190, 194
 Wilberding, J.: 38–40, 229, 261
 Wildberg, Ch.: 10–11, 16, 42, 121–143
 Wittgenstein, L.: 118
 Wolff, M.: 20, 22–24
 Woodruff, P.: 272
 Wurm, K.: 4, 146
 Zeller, E.: 1
 Zeyl, D. J.: 110, 232–234

INDEX LOCORUM

Aeschylus		Anaxagoras	
<i>Septem contra Thebas</i>		A117	275
16	260	Anonymus	
19	260	<i>In De Caelo</i>	
Alcinous		<i>Ms. Laur.</i> 87.20, fol. 209v	29
<i>Didascalicus</i>		Aristoteles	
3 153.30–32	44	<i>Analytica Posteriora</i>	
4 154.10–156.23	87	II.10	62
5 155.39–156.23	69	II.10 93 b 29–94 a 10	112
5 156.30–32	44	<i>Categoriae</i>	
15 171.26–30	271	2 1 a 20 ff.	80
Alexander Aphrodisiensis		4 1 b 26	80
<i>De Fato</i>		5 3 a 7–21	80
6 169.18–170.17	179	5 3 a 33–b 9	90
13	187	<i>De Anima</i>	
13 181.13 ff.	187	I.3 407 a 2–15	211
<i>De Tempore</i> (ed. Sharples)		I.3 407 a 9–10	228
5	88 n.	<i>De Caelo</i>	
<i>In Analytica Priora</i>		I.7 275 a 15–21	200
1.1–9	48	I.7 275 b 12–25	195
2.22–33	50	I.10–12	67
3.3 ff.	48	I.10 279 b 17–21	67
3.19	49	I.10 280 a 28–32	67
3.21	49	II.13 293 b 30–33	271
4.33	49	II.14 297 a 8–12	25
39.19–40.4	51	II.14 297 b 17–20	279
164.25–165.2	48	<i>De Generatione Animalium</i>	
165.8–15	51	I.2 716 a 15–17	275
300.3–12	51	III.11 762 a 18–21	266
<i>In Topica</i>		<i>De Generatione Et Corruptione</i>	
32.12–34.5	51	I.6 323 a 30	201
<i>Mantissa</i>		II.10 336 a 23–337 a 15	179
186.5–21	179	II.10 337 a 22–24	195
<i>Quaestiones</i>		<i>Metaphysica</i>	
I.3 7.20–8.28	63	I.6 987 b 14–18	215
I.11a–I.11b 21.12–24.22	63	III.5 1001 b 28–29	243
II.12 61.1–18	51		

IV.2 1003 b 16–17	199	VIII.10 266 a 12–24	198
V.14 1020 a 33–1021 b 25	80, 90	VIII.10 266 a 27–28	197
VI.1	49, 74	Pseudo-Aristoteles	
VII.6 1031 b 22–28	80		
VII.8	80	<i>De Mundo</i>	
VII.10 1036 a 9–12	220	392 b 15–16	264
VII.11 1037 a 4–5	220	397 b 9	199
VII.14 1039 b 2–7	90	400 a 3–8	199
VII.17	80	400 b 8–15	199
XII.6 1071 b 6–11	195	Arius Didymus	
XII.7 1072 a 26	126		
XII.7 1072 b 13–14	199	<i>Fragmenta Physica</i>	
XII.8	190	9	199
<i>Meteorologica</i>		Asclepius	
I.7	19		
II.4	275	<i>In Metaphysica</i>	
<i>Physica</i>		450.20–23	199
II.1	174	Atticus	
II.7	174		
IV.1 208 b 8–12	19	<i>Fragmenta</i> (ed. des Places)	
IV.4 211 b 10–19	45	4	68
IV.5 212 b 33–213 a 11	19	Augustinus	
IV.11 218 b 33–219 a 1	45, 54		
IV.11 219 a 3–4	59	<i>Confessiones</i>	
IV.11 219 a 12–14	195	XI.14 (17)	118
IV.11 219 a 14–16	60	XI.16 (21)	118
IV.11 219 a 14–19	56	XI.23 (29)	118
IV.11 219 a 14–b 2	45	XI.23 (29–30)	119
IV.11 219 b 1–2	54, 55	XI.26 (33)	216
V.3 227 a 10–12	194	Calcidius	
V.3 227 a 30–31	194		
V.6 230 a 31–b 1	179	<i>In Timaeum</i>	
VI.1 231 a 21–b 18	228	143–144	176
VI.1 231 a 26–b 6	194	166.10–14	271
VI.1 231 b 6–10	194	Cicero	
VI.1 231 b 15–16	194		
VI.1 231 b 15–18	194	<i>Academica</i>	
VI.1 231 b 18–20	194	I.30	86
VI.4 234 b 10–20	194	I.30–32	105
VI.4 235 a 15–17	195	I.31–32	86
VI.10 240 b 8–13	195	I.33	86
VIII.4 254 b 7–256 a 3	196	II.30	105
VIII.4 255 b 31–256 a 3	196		
VIII.5	195, 207	<i>De Finibus Bonorum Et Malorum</i>	
VIII.5 256 b 8–10	195	V.59	105
VIII.5 257 a 25–26	205		
VIII.5 257 b 23–25	205		
VIII.5 258 a 3–21	189		
VIII.6 258 b 10–11	190		
VIII.6 259 b 20–22	190		
VIII.10 266 a 10–12	198		

- De Natura Deorum*
II.83 275
- Damascius
- In Phaedonem*
I.497 277
I.509 266
I.515 271
I.516 260–261 279
I.541 277
II.117 350–351 279
II.118 350–351 279
- In Philebum*
17.1–3 181, 235
- Dexippus
- In Categorias*
23.17–24.1 91
- Diogenes Laërtius
- VII.137 277
X.33 103
X.35 107
- Elias
- In Categorias*
185.6–10 28
- Epicurus
- Ad Herodotum*
72–73 103, 104
- Euclides
- Elementa*
I def. 14 222
- Euripides
- Fragmenta* (ed. Nauck)
839 325 n.
944 260
- Eusebius
- Praeparatio Evangelica*
III.11 49 273
- Eutocius
- In Librum Primum De Planorum Aequilibriis*
306.1–14 28
- Galenus
- An In Arteriis Sanguis Contineatur*
K. IV 729 44
- Compendium Timaei* (ed. Kraus-Walzer)
IV 1–3 56
- De Animi Cuiuslibet Peccatorum Dignatione Et Curatione*
K. V 64 44
K. V 80 ff. 45, 48
K. V 88 44
K. V 89 44
K. V 91 44
K. V 91–93 50
- De Constitutione Artis Medicae*
K. I 266 44
K. I 290–291 51
- De Crisibus*
K. IX 583 51
- De Differentiis Pulsuum*
K. VIII 574 61
K. VIII 696 61
K. VIII 698 61
K. VIII 704 62
K. VIII 704 ff. 63, 64
K. VIII 704–705 64
K. VIII 704–706 62
K. VIII 705 62
K. VIII 708 62, 64
K. VIII 708–709 65
K. VIII 764 61
- De Elementis Ex Hippocrate*
K. I 486 44
- De Febrium Differentiis*
K. VII 280 44
- De Libris Propriis*
K. XIX 13 48
K. XIX 39 48, 49
K. XIX 39–40 50
K. XIX 39–41 68

K. XIX 42	44	<i>In Hippocratis Aphorismos</i>	
K. XIX 44	54, 70	K. XVIIIB 382	51
K. XIX 46	69	<i>In Hippocratis De Officina Medici</i>	
<i>De Locis Affectis</i>		K. XVIIIIB 861	51
K. VIII 145	48, 51	<i>Institutio Logica</i>	
<i>De Marcore</i>		2 1	64
VII 671	68	11 1	48
<i>De Methodo Medendi</i>		12 1	45
K. X 20 ff.	64	19 1	48
K. X 28	44, 47	<i>Quod Optimus Medicus Sit Quoque</i>	
K. X 36	53	<i>Philosophus</i>	
K. X 38	44	K. I 60	49
K. X 39	45, 48, 61	K. I 60–61	50, 52
K. X 40	45, 54, 63	Hermias	
K. X 87	75	<i>In Phaedrum</i>	
K. X 113	44	31 149.10–150.2	223
K. X 134	63	Iamblichus	
K. X 128	63	<i>Ad Sopatrum</i>	
K. X 206	48, 51	<i>apud Stob. I.5.18</i>	
K. X 206–207	51	81.8–18	158, 184
<i>De Optima Doctrina</i>		<i>De Mysteriis</i>	
K. I 48–49	52, 53	II.6 82.9 ff.	184
K. I 52	45	II.9 88.5 ff.	184
<i>De Ordine Librorum Propriorum</i>		V.18 223.10 ff.	184
K. XIX 58–60	59	VIII.7 269.13 ff.	184
<i>De Placitis Hippocratis Et Platonis</i>		<i>Fragmenta</i> (ed. Dillon)	
K. V 213	44, 58	73	272
K. V 219	62	<i>In Nicomachi Arithmetica Introductionem</i>	
K. V 220	44	7.8–10	227
K. V 590	44	Ibn Rushd	
K. V 592	44	<i>Talkhīṣ al-Samā' wa al-'ālam</i>	
K. V 593	53, 54, 62, 64	(ed. Alaoui)	
K. V 626	46, 53	367	30
K. V 722	47	Lucretius	
K. V 723	45, 52, 53	<i>De Rerum Natura</i>	
K. V 753	44	I 459–460	103
K. V 766–767	51	Macrobius	
K. V 795	51	<i>Saturnalia</i>	
<i>De Propriis Placitis</i>		I.23.8	272
2	51, 71		
<i>De Propriorum Animi Cuiuslibet Affectuum</i>			
<i>Dignotione Et Curatione</i>			
K. V 41–42	68		
K. V 41–43	48		
<i>De Usu Partium</i>			
K. IV 275–276	46		

Marinus		<i>Leges</i>	
		VII 818 b	235
<i>Vita Procli</i>		X 875 a 6–b 1	205
13.10–17	253	X 884 a–907 d	232
		X 891 b–892 d	233
Nemesius		X 893 b–894 c	226
		X 894 b–895 b	203
<i>De Natura Hominis</i> (ed. Morani)		X 894 c	214
23.24–25	46	X 896 a ff.	177
82.7–10	46	X 896 a–897 c	180
		X 896 c 8–897 b 4	186
<i>Oracula Chaldaica</i> (ed. des Places)		X 897 b–899 a	38
Fr. 54	183	<i>Menexenus</i>	
Fr. 102	183	237 e–238 b	274
		238 ab	274
<i>Orphica</i> (ed. Kern)		<i>Parmenides</i>	
Fr. 91	278	137 c 4–142 a 8	254
Fr. 162	182	137 c	221
Fr. 168 29–30	264	137 c 1–4	222
		138 b 8–c 1	226
Philo Alexandrinus		137 d 8–c 4	223
		142 b 1–155 c 3	254
<i>De Confusione Linguarum</i>		145 b 3–5	223
127	52	146 a 9–147 b 8	256
		147 c 1–148 d 4	257
<i>De Ebrietate</i>		155 c 4–157 b 5	254
169	52	156 d 2–c 7	256
		157 b 6–159 b 1	257
<i>De Plantatione</i>		159 b 2–160 b 4	254
5	264	159 c 2–160 a 3	254
		159 c 2–160 b 4	254, 256
<i>De Somniis</i>		160 a 4–b 4	254
I 144.3	264	164 d 1	256
Philoponus		<i>Phaedo</i>	
		108 c 3–109 a 6	278
<i>De Aeternitate Mundi Contra Proclum</i>		109 a	264
238.9–11	197	109 bc	277
239.16–21	197	110 a ff.	265
297.27–298.2	197	110 b 7	265
599.22–601.16	46, 67	112 c 4–113 c 8	277
600.14–17	68		
600.14–19	68	<i>Phaedrus</i>	
600.23–601.16	68	245 bc	203
600.24–601.5	68	245 c 7–8	190
		245 cd	190
<i>In Physica</i>		245 d 7	189
576.12–577.1	66	245 d 8–c 2	205
576.12–577.9	45	245 e 5–6	206
		247 a	264, 272
Plato		247 c 3	226
		247 d 4–5	226
<i>Cratylus</i>		247 c 6	223
401 c	260		
405 cd	272		

<i>Philebus</i>		39 b 1–d 2	109
24 a 6–25 d 1	256	39 cd	19
		40 a 1	276
<i>Politicus</i>		40 ab	38
269 d	68	40 bc	13, 260, 261
272 b 2	183	40 b 8	271
272 c 5–6	181, 182, 183	40 b 8–c 3	262
272 c 5 ff.	238	40 c	275
273 c	68	40 d	262
		41 a 7–8	249
<i>Respublica</i>		41 b	68
VI 510 c 5–511 a 2	221	41 d 4 ff.	175
		41 e 2–3	175, 183, 186
<i>Sophista</i>		46 de	174
242 b–244 b	105	47 a 4–7	130
242 b 10	105	47 c–48 a	232
243 ab	105	47 c 3–48 a 7	232, 256
244 a	105	48 a 1–2	181
244 b–245 c	253	48 a 7–8	245
244 d 14–245 d 11	256	48 bd	257
245 d 8–10	253, 256	51 a	248
248 a 4–256 c 5	245	51 a 7	245, 256
248 c	260	52 d–53 b	233
248 c 7–254 c 1	256	52 d 2–53 b 5	245
254 c 1–254 c 7	256	52 d 3	246
		52 d 4–53 a 2	234
<i>Theaetetus</i>		52 d 6	257
182 ab	257	52 e 2	256
182 b	80	53 a 4–5	257
186 a–187 a	87	53 a 6	256
186 b 2 ff.	89	53 a 7–b 5	234
		53 b 2	239, 257
<i>Timaeus</i>		53 c–54 d	257
28 a 4–6	196	53 c–55 c	260
28 c–29 a	250	54 a–55 a	222
28 c 3–4	248	54 d 1	256
29 c 1	250	55 c 4–6	265
30 a	233	58 a 7	273
30 a 2–6	233, 240	62 d 12 ff.	264
30 a 3	257	76 c 1	271
30 a 4–5	245, 257	90 a	259
31 b 1	249	91 c	259
31 b–33 b	260	92 c 5–6	248
31 c–32 a	212		
31 c 4	256	Pseudo-Plato	
35 a	207, 217		
35 a 1–2	207	<i>Epinomis</i>	
35 a 2–3	210, 211	982 ac	180
35 a–36 d	218		
36 ad	256	Plotinus	
36 b–37 c	190		
36 c	267	I.1 [53] 7.9–11	88, 89
37 c–38 b	108	I.1 [53] 7.9–16	89
37 d 5–7	210	I.1 [53] 12.21–28	154

I.2 [19] 1.40	95	II.6 [17] 3.20–29	94
I.2 [19] 6	187	II.6 [17] 3.21	94
I.4 [46] 6.21	95	II.6 [17] 3.24–28	95
I.4 [46] 8.2	98	II.7 [37] 2.24–28	93
II.1 [40] 5.18–23	182	II.7 [37] 2.29	98
II.1 [40] 8	34	II.7 [37] 2.30–32	135
II.1 [40] 8.13–16	39	II.7 [37] 3	92, 138
II.1 [40] 8.15–19	38	II.7 [37] 3.4–5	145
II.2 [14] 1	34	II.7 [37] 3.6–14	83
II.2 [14] 1.16–19	35	III.1 [3] 1	189
II.2 [14] 1.19–23	35	III.1 [3] 5–6	163
II.2 [14] 1.25–26	36	III.1 [3] 6.1 ff.	163
II.3 [52] 12.1–9	163	III.1 [3] 8.4–14	163
II.3 [52] 17.3–25	160	III.1 [3] 10.2–10	164
II.3 [52] 17.24	277	III.2 [47] 1.15–19	74
II.3 [52] 18.10–13	159	III.3 [48] 4.6–13	153
II.4 [12] 1	108	III.6 [26] 1.1–3	89
II.4 [12] 1.1–6	113	III.6 [26] 1.1–7	88
II.4 [12] 1.6–12	92	III.6 [26] 14.6–36	169
II.4 [12] 2–5	136	III.6 [26] 15.23–27	170
II.4 [12] 4	136	III.6 [26] 16.8–11	154
II.4 [12] 4.11	136	III.6 [26] 17.1–12	92
II.4 [12] 5.12–18	137	III.7 [45] 1.1–10	10, 105
II.4 [12] 5.28–29	136	III.7 [45] 2.5–6	109, 113
II.4 [12] 6	121	III.7 [45] 5.11–12	109
II.4 [12] 8.21	137	III.7 [45] 5.18–19	109
II.4 [12] 8.23–28	84	III.7 [45] 6.45–46	109
II.4 [12] 8.24–26	84	III.7 [45] 7.14	106
II.4 [12] 8–12	135	III.7 [45] 8.45–46	106
II.4 [12] 9	187	III.7 [45] 9.59–63	73
II.4 [12] 10	136, 137	III.7 [45] 9.82–83	73
II.4 [12] 11.26–27	170	III.7 [45] 10	107
II.4 [12] 11.29–35	170	III.7 [45] 10.1–3	109
II.4 [12] 11.39	170	III.7 [45] 11	74
II.4 [12] 12.1	137	III.7 [45] 12–13	109, 119
II.4 [12] 12.1–7	169	III.7 [45] 12.15–19	73
II.4 [12] 12.11–12	168	III.7 [45] 12.27–52	10, 110
II.4 [12] 13.30–32	92	III.7 [45] 13.1–6	114
II.4 [12] 16.25–28	92	III.7 [45] 13.23–26	114
II.5 [25] 2.8 ff.	146	III.8 [30] 1	127, 129, 138
II.5 [25] 3.22	146	III.8 [30] 1.1–10	127
II.5 [25] 3.36–41	99	III.8 [30] 1.10	129
II.6 [17] 2–3	9	III.8 [30] 1.15	129
II.6 [17] 2.17–20	93	III.8 [30] 1.18–24	11, 130
II.6 [17] 2.19–21	94	III.8 [30] 1.22	130, 131
II.6 [17] 2.20–22	94	III.8 [30] 2	133, 135, 143
II.6 [17] 2.25–27	94	III.8 [30] 2.1	133
II.6 [17] 3	97	III.8 [30] 2.2	133
II.6 [17] 3.3–9	93	III.8 [30] 2.4	135
II.6 [17] 3.4	94	III.8 [30] 2.5 f.	133
II.6 [17] 3.10	94	III.8 [30] 2.19–25	93, 94
II.6 [17] 3.10–14	94	III.8 [30] 2.19–34	83
II.6 [17] 3.13	94	III.8 [30] 2.27–30	94
II.6 [17] 3.14–20	94, 97	III.8 [30] 2.30–34	161

III.8 [30] 3	134	V.3 [49] 3.1–2	89
III.8 [30] 4.1–15	138	V.4 [7] 2	185
III.8 [30] 4.10–14	140	V.5 [32] 1.12–19	88
III.8 [30] 4.15–21	159	V.8 [31] 7.18–22	155
III.8 [30] 4.27–29	140	V.9 [5] 5.17–19	82
III.8 [30] 4.31–38	141	VI.1 [42] 10.16–17	97
III.8 [30] 4.31–39	161	VI.1 [42] 10.20–24	93
III.8 [30] 4.39–40	141	VI.1 [42] 10.20–26	93
III.8 [30] 4.43–47	141	VI.1 [42] 10.20–27	97
III.8 [30] 5	132	VI.1 [42] 10.53–56	97
III.8 [30] 5.1–8	141	VI.1 [42] 10.60	98
III.8 [30] 5.10–11	159	VI.1 [42] 11.5	98
III.8 [30] 6	132	VI.1 [42] 11.16–21	93
III.8 [30] 6.10–19	160	VI.1 [42] 16	38, 75
III.8 [30] 6.16	132	VI.2 [43] 5.1–5	98
III.8 [30] 6.33	128	VI.2 [43] 5.10–14	93
III.8 [30] 7	132	VI.2 [43] 14	9, 79, 95
III.8 [30] 7.1 f.	132	VI.2 [43] 14.14–22	95
IV.2 [4] 1.29–41	211	VI.3 [44] 1.6	98
IV.3 [27] 23	72	VI.3 [44] 2.1	81
IV.3 [27] 3.21–25	89	VI.3 [44] 2.1–4	83
IV.3 [27] 8.13–16	151	VI.3 [44] 5.24–30	91
IV.3 [27] 10.29–42	83	VI.3 [44] 6.3–8	81
IV.3 [27] 13	165	VI.3 [44] 8	9, 93
IV.3 [27] 26.27–29	89	VI.3 [44] 8–15	79
IV.3 [29] 26.29–32	89	VI.3 [44] 8.7–9	88
IV.3 [27] 30	89	VI.3 [44] 8.19–23	87
IV.3 [27] 31.11	89	VI.3 [44] 8.20–21	81
IV.4 [28] 11.1–5	125	VI.3 [44] 9.1	81
IV.4 [28] 13	133	VI.3 [44] 9.27–31	81
IV.4 [28] 13.3–22	159	VI.3 [44] 9.29	98
IV.4 [28] 13.19–23	160	VI.3 [44] 9.30–33	81
IV.4 [28] 22	267	VI.3 [44] 9.33–34	83
IV.4 [28] 22–27	267	VI.3 [44] 10.14–20	82
IV.4 [28] 23.29–32	89	VI.3 [44] 14.31	91
IV.4 [28] 26.13–17	269	VI.3 [44] 15.7–38	93
IV.4 [28] 27.5–12	267	VI.3 [44] 15.24–31	81
IV.4 [28] 27.16–18	269	VI.3 [44] 15.27–31	81
IV.4 [28] 30	269	VI.3 [44] 15.28–31	83
IV.4 [28] 30.18–21	270	VI.3 [44] 15.34–36	98
IV.4 [28] 31 ff.	163	VI.3 [44] 16.1–6	81
IV.4 [28] 39.5–11	162	VI.3 [44] 16.18–19	98
IV.6 [41] 1.19–40	89	VI.3 [44] 16.39	98
IV.7 [2] 8 ¹ .4–6	213	VI.3 [44] 23.1–5	37
IV.7 [2] 8 ¹ .11–12	213	VI.3 [44] 27	40
IV.7 [2] 8 ³	121	VI.5 [23] 1.1–14	10, 104
IV.8 [6] 7.30	143	VI.5 [23] 1.10–11	130 n.
IV.8 [6] 8	89	VI.3 [23] 1.9–11	111
V.1 [10] 6.38 ff.	165	VI 4 [22] 15.1–3	238
V.1 [10] 6.40 ff.	165	VI.4 [22] 15.8–27	154
V.1 [10] 6–7	185	VI.5 [23] 7.1–8	89
V.1 [10] 7.49	1	VI.5 [23] 8.6–7	98
V.3 [49] 2.8	89	VI.5 [23] 8.9–10	98
V.3 [49] 2.10	89	VI.5 [23] 10.46	227

VI.6 [34] 17	187	Proclus	
VI.6 [34] 17.11–32	219		
VI.6 [34] 17.26–27	222	<i>De Malorum Subsistentia</i>	
VI.7 [38] 4	149	27–29	196
VI.7 [38] 4.28 ff.	150	48 17–18	196
VI.7 [38] 5	149, 154	50	196
VI.7 [38] 5.2–31	151	60 9–21	196
VI.7 [38] 5.3	152		
VI.7 [38] 5.12	152, 154	<i>De Providentia</i>	
VI.7 [38] 6	151	6	117
VI.7 [38] 6.35–36	151	7–9	176
VI.7 [38] 7.8–17	162	7–14	175
VI.7 [38] 11.24–27	268	7 3–5	176
VI.8 [39] 7.1–4	165	7 23–25	176
		8 3–5	176
Plutarchus		8 7–8	177
		8 12–13	176
<i>Fragmenta</i> (ed. Sandbach)		8 14–15	177
215	111	8 20–21	176
		8 27	176
Pseudo-Plutarchus		8 26–28	157
		10	158
<i>De Fato</i>		10–12	177
568 D	185	10 15–17	177
		10 22–24	177
Porphyrius		10 24–27	177
		11	158
<i>De Abstinentia</i>		11–12	178
II.32.1	260	11 1–22	158
		11 22–25	178
<i>Fragmenta</i> (ed. Smith)		11 15–22	177
70	65	11 22–25	178
119–161	3	11 22–31	177
		12	158
<i>In Categorias</i>		12 1–9	178
56.30	65	12 1–12	158
90.29–91.12	66	12 7–9	179
91.19–27	65	12 9–12	180
94.29–96.1	91	12 12–18	178, 179
		13–14	180, 236
<i>In Ptolemaei Harmonica</i>		13 1–16	181
11.4 ff.	66	13 20–21	182
11.4–6	52	13 22–25	186
11.21 ff.	66	13 25–26	182
13.15–14.13	66	28	225
		29	225
<i>Sententiae</i>		30 1–9	225
5	212	30 5–6	225
		30 25–27	225
<i>Vita Plotini</i>			
18	87	<i>Elementatio Physica</i>	
24 37	2	I def. 1	193
		I.1–2	228
		I.4	194

I.5	193	102 92.9–10	227
I.11	193	103	276
I.14	194	111	157, 185
I.19	194	171	207
I.31	193, 195	171 150.1–3	208
II.1–6	195	190–191	208
II.6–10	195	191	208
II.8	197, 201	197	208
II.11–13	195		
II.12	197, 200, 201	<i>In Alcibiadem</i>	
II.12 58.13–14	201	122.7–123.20	148
II.13	200	134.3	158
II.14–15	195	134.19	239
II.15	195, 197	322.3–5	184
II.16	195		
II.17	195	<i>In Euclidem</i>	
II.18	195	3.1–7	217
II.18–21	197	3.10–14	217
II.19	193, 195, 197	4.6–8	217
II.19 56.15–27	193	4.20–5.10	217
II.20	195	5.12–14	217
II.21	196, 200, 201	6.17–19	218
		6.19–22	218
<i>Elementatio Theologica</i>		7.11–12	218
7	177	12.6–13.3	215
14	203, 204	13.22–23	215
14 16.9–12	204	15.16–16.8	215
14 16.13	204	17.3–4	219
14 16.15–19	204	17.7–10	219
14 16.20–26	205	17.8–9	224
14 16.28–29	213	17.18–21	219
14–24	203, 242	18.14–17	217
15	208	18.22–23	219
17	156	18.23–24	219
20	206	19.12–13	217
20 22.6–8	206	22.24	227
20 22.13–18	207	32.7–13	207
21	156, 185	36.5–11	218
34 cor. 38.3–8	199	37.6–8	219
61	197, 209	49.12–14	215
65	227	49.24–50.2	220
70–71	154	50.7–9	220
70–72	148	50.14–16	220
72	149	51.16–20	220
78–79	148	51.20–52.3	220
79 74.24–26	238	52.22–25	220
80	177, 192, 209, 213	53.15–16	220
80 74.31–76.1	209	54.5–9	221
80 76.1–3	209	54.19–22	221
80 76.4–7	202	54.22–55.2	221
84	200	54.27–55.6	225
86	235 n.	56.13–15	221
86 78.28–29	235 n., 248 n.	89.2–7	239
96	197	89.10–14	227

89.23–28	227	III 796.7–8	212
90.3–4	227	III 803.5–806.14	185
100.14–19	215	III 811.8–14	158
115.22	227	III 821.6–14	237
136.20–142.7	222	IV 842.12–846.17	148
137.3–8	222	IV 842.29–843.25	238
137.8–17	222	IV 843.8–18	238
137.18–24	219, 222	IV 844.11–26	248
137.21–22	263	IV 844.19	256
137.24–138.4	223	IV 844.20	256
138.5–22	223	IV 844.21	257
139.3–5	222	IV 844.21–22	257
139.5–6	222	IV 844.27–845.12	250
139.6–7	222	IV 845.20–846.17	251
139.6–8	223	IV 892.7	277 n.
139.8	223	IV 896.10–13	116
139.9	223	IV 922.1–23	237 n.
139.12–142.2	215	IV 943.17–28	239
140.14	223	IV 943.20–26	239
140.15	223	IV 969.9–971.7	185
141.10–19	222	IV 969.18	270
141.14	220	V 1017.18–20	236, 256
142.3	222	V 1028.17	235
142.4	223		
142.7	223	<i>In Parmenidem</i> VI–VII (ed. Cousin)	
142.11–19	220	VI 1045.32–35	185
154.6–155.22	222	VI 1063.18–1064.13	254
164.27–168.25	224	VI 1064.5–7	257
279.4–6	194	VI 1064.7–12	256
384.5–21	224	VI 1116.14–15	238
		VI 1116.21–1123.21	218
<i>In Parmenidem</i> I–V (ed. Steel)		VI 1119–1123	252
I 620.21–621.1	236, 256	VI 1119.4–8	252, 256
I 704.13–14	270	VI 1119.4–22	242
I 706.1–3	210	VI 1119.9–10	244
II 735.18–736.6	244, 246	VI 1119.9–11	256
II 735.23–24	256	VI 1119.10	256
II 735.24	256	VI 1119.11–15	257
II 735.25	244, 256	VI 1119.15–22	218
II 735.26	256	VI 1122.35–1123.7	257
II 736.1	256	VI 1122.35–1123.18	243
II 736.1–3	257	VI 1123.7–11	256
II 736.3–6	256	VI 1123.11–14	256
II 739.27–740.5	196	VI 1123.13–14	256
III 786.3–4	177	VI 1123.14–18	257
III 785.9–10	213	VI 1123.22–1124.37	252
III 788.8–19	199	VI 1127.29–30	223
III 790.5–791.20	236, 256	VI 1127.28–1129.9	223
III 791.21–795.6	237	VI 1129.17–1130.38	221
III 791.21–795.6	185	VI 1130.11–12	223
III 792.16–20	185	VI 1130.39–1131.17	222
III 792.18	156, 237	VI 1131.17–21	222
III 794.16–795.6	237	VI 1132.9–29	223
III 795.25–796.9	214	VI 1132.12–14	222

VII 1155.15–27	226	II 1.217.18–27	202
VII 1155.27–28	225	II 1.237.17–19	193
VII 1155.37–39	227	II 1.256.13–30	253, 256
VII 1156.3	225	II 1.267.20–24	198
VII 1156.22–23	227	II 1.267.23–24	197
VII 1157.8–21	226	II 1.270.12	257
VII 1157.9	226	II 1.270.15–16	257
VII 1157.21–28	226	II 1.270.19	257
VII 1157.26–28	227	II 1.270.19–20	239
VII 1157.31–32	226	II 1.273.9–15	223
VII 1158.12–17	226	II 1.283.30–285.7	239
VII 1158.2–4	227	II 1.306.32–307.4	87
VII 1158.16–17	227	II 1.310.15–311.1	249
VII 1207.2–3	184	II 1.310.16–18	249
		II 1.321.2–327.10	249
<i>In Rempublicam</i>		II 1.322.1–7	87
I 216.18–21	239	II 1.325.10–328.12	239, 246, 256
II 204.23–205.27	181	II 1.326.5–10	256
II 205.27–208.25	182	II 1.326.7–9	246
II 205.30–207.13	182	II 1.337.4–7	236
II 206.18	182	II 1.361.20–26	250
II 245.3–246.4	237	II 1.368.15–29	250
II 262.20	236	II 1.375.1–4	148
II 269.15–270.13	237	II 1.375.24–30	148
II 275.6–8	237	II 1.383.1–22	241, 246
II 297.1	236	II 1.383.20	257
		II 1.383.22–387.5	239
<i>In Timaeum</i>		II 1.384.22–385.17	252
I 1.2.1–9	192	II 1.384.29–395.2	224
I 1.2.15–22	191	II 1.385.9–11	252
I 1.2.15–29	191	II 1.385.12–14	253
I 1.2.21–29	199	II 1.385.17–386.8	246, 256
I 1.3.7–10	191, 198	II 1.385.28–386.8	256
I 1.6.21–24	202	II 1.386.1–2	218
I 1.6.24–26	193, 202	II 1.386.7	252
I 1.6.27–28	210	II 1.387.5–14	257
I 1.7.6–16	202	II 1.387.5–388.28	149, 241, 252
I 1.7.15–16	193	II 1.387.12	256
I 1.8.13–21	214	II 1.387.13	242, 257
I 1.9.25–14.3	158	II 1.387.13–14	246
I 1.9.31–14.3	156, 185	II 1.387.13–15	241
I 1.10.5 ff.	175	II 1.387.14	257
I 1.10.13–22	211	II 1.387.25–30	250
I 1.10.16–21	156	II 1.387.30–388.1	238, 247
I 1.10.19–21	212	II 1.388.1	257
I 1.11.2–4	211	II 1.388.23	257
I 1.11.9–12	211	II 1.388.26–27	239
I 1.11.18–19	157	II 1.389.5–16	239
I 1.12.20–25	213	II 1.427.6–22	220
I 1.12.25–27	185	II 1.431.20–23	87
I 1.42.26	236, 256	II 1.453.3–14	249
I 1.140.24–30	256	III 2.7.33	168
I 1.160.29	235	III 2.10.19–21	212
I 1.201.16 ff.	175	III 2.11.24–31	39

III 2.25.3–5	212	IV 3.97.32–98.1	278
III 2.25.6–7	212	IV 3.114.24–115.2	8, 26
III 2.25.7–8	212	IV 3.133.16–134.8	274
III 2.25.9–23	212	IV 3.133.25 ff.	265
III 2.25.11	212	IV 3.134.8–20	275
III 2.25.15	212	IV 3.135.8–15	266
III 2.29.33	168	IV 3.135.23–25	266
III 2.30.15	236	IV 3.136.18–24	274
III 2.37.14	184	IV 3.136.29–138.10	272
III 2.43.1 ff.	276	IV 3.137.6–13	271
III 2.44.4–10	276	IV 3.138.9	271
III 2.44.15–24	168	IV 3.139.2–16	272
III 2.48.17	278	IV 3.140.9–11	269
III 2.49.9–21	277	IV 3.140.11–19	270
III 2.49.12–29	278	IV 3.140.21	281
III 2.49.17–19	277	IV 3.140.24–33	281
III 2.49.27–29	277	IV 3.141.1 ff.	265
III 2.50.3–12	276	IV 3.141.25–33	277
III 2.56.12–68.5	257	IV 3.141.26	277, 278
III 2.68.14–76.29	278, 279	IV 3.142.6–9	276
III 2.70.5–14	223	IV 3.142.28–31	280
III 2.70.14–17	223	IV 3.143.13–15	278
III 2.99.5–6	222	IV 3.143.15–17	279
III 2.123.2–5	200	IV 3.144.6	260
III 2.123.10–13	200	V 3.172.18–20	278
III 2.128.18–19	208	V 3.191.7–8	237
III 2.128.20–22	214	V 3.266.14 ff.	175
III 2.139.17–30	212	V 3.271.16 ff.	175
III 2.140.24–30	245	V 3.271.28 ff.	183
III 2.140.28–30	210	V 3.272.5.14	180
III 2.147.30–31	210	V 3.272.5–20	184
III 2.148.25–149.3	211	V 3.272.11 ff.	179
III 2.147.33–148.2	214	V 3.272.24 ff.	175, 176
III 2.149.10–11	211	V 3.272.25–28	184
III 2.151.24–27	210	V 3.274	176
III 2.152.9–20	211	V 3.274.14–20	182
III 2.152.10–11	213	V 3.274.32–275.4	186, 187
III 2.152.11–12	210	V 3.275.15–21	184
III 2.152.24–30	211	V 3.308.15–17	266
III 2.153.30	184	V 3.323.31–324.2	193
III 2.166.4–8	216		
III 2.166.8–14	278	<i>Sacrificia</i> (ed. Bidez)	
III 2.234.14–16	278	148.3–10	281
III 2.266.28–268.6	200	148.19–21	281
III 2.273.9–15	222		
IV 3.8.28–9.2	116	<i>Theologia Platonica</i>	
IV 3.9.7–13	196	I.14	212, 213
IV 3.9.15	116	I.14 60.11–63.20	210
IV 3.9.21–23	116	I.14 61.9–15	205
IV 3.21.6–24.30	115	I.14 61.15–17	213
IV 3.25.8–27.32	216	I.14 61.23–62.1	177, 202, 209
IV 3.32.4–6	117	I.14 62.1–12	213
IV 3.32.16–21	117	I.14 62.21–22	213
IV 3.35.20–29	117	I.18 85.24	196

I.19 93.19–94.8	227	Ptolemaeus	
II.2 18.7–9	194		
II.2 18.17–19	199	<i>Apotelesmatica</i>	
II.2 18.21–22	199	1.2 1	32
II.12 67.14–68.5	223		
III.6	149, 177	<i>De Criterio</i>	
III.6 20.10–21.9	199	8–9	52, 66
III.6 20.25–21.1	197		
III.6 21.1–2	197, 201	<i>Harmonica</i>	
III.8	149	3.3	52
III.9 36.5–6	270		
III.10 41.20–22	252	<i>Syntaxis Mathematica</i>	
III.15 52.23–54.20	249	I.7 21.9–22.11	21
III.19 66.23–25	270	I.7 22.12 ff.	20
III.21	149	I.7 22.12–23.3	21
III.34	148	I.7 23.3–4	22
III.40	148	I.7 23.3–16	22
IV.10 35.11–16	223	I.7 23.16–20	24
IV.12 40.13–17	223		
IV.37 108.5–109.21	223	al-Rāzī	
V.1 8.3–10	227		
V.11 36.22–23	280	<i>Kītāb al-Shukūk ‘alā Jālīnūs</i>	
V.11 37.22	227	(ed. Mohaghegh)	
V.11 38.14–26	227	3.18–21	67
V.12 41.19–42.4	249	8.7–9	56, 66
V.13 42.6–13	249		
V.14 45.21–47.13	249	Seneca	
V.16	249		
V.16 53.5–16	249	<i>Naturales Quaestiones</i>	
V.16 54.5	249	VI.16.1	269
V.16 55.8–13	249		
V.16 55.14–15	248	Sextus Empiricus	
V.16 55.15–19	249		
V.16 56.13–15	249	<i>Adversus Mathematicos</i>	
V.17 63.5–7	168, 257	VII 141–149	52
V.17 63.7	241	VII 217–226	52
V.18	157, 175		
V.18 64.3–20	186	<i>Pyrrhoniae Hypotyposes</i>	
V.20 73.15–16	257	II.213	44
V.10 74.14	270		
V.25 93.24–25	158	Simplicius	
V.31–32	175		
V.31 113.14–114.4	181	<i>In Categorias</i>	
V.31 114.1–4	181	48.1–11	91
V.31 114.1–10	245, 256, 257	78.20–24	91
V.31 114.3–4	236	98.1–35	91
V.31 114.5–10	236, 257	213.8–28	65
V.31 114.9	256	213.14–21	113
V.32	183	213.18–20	112
V.32 118.24–119.26	183	213.23–26	113
V.32 119.7–19	158	611.10–614.7	167
V.38 140.17–141.17	227	631 ff.	166
VI.15–17	157, 185		
VI.23	175, 182		

<i>In De Caelo</i>		1250.14–19	214
20.10–25	25	1333.36–1334.10	194
20.11–12	8, 17	1363.4–14	199
20.21	8, 17		
20.25–31	19	Stobaeus	
517.12–13	272	I.5.18 81.8–18	158, 184
517.13–22	271	I.22.1 196.9–11	199
518.1–8	271		
518.19–21	271	<i>Stoicorum Veterum Fragmenta</i>	
543.28 ff.	25	I.176	175
643.13–27	264	II.492	41
710.14–711.25	27	II.913	175, 180
711.4–15	30	II.915	176
		II.937 [1]	175
<i>In Physica</i>		II.945 [1]	175
404.16–33	190	II.979	187
420.1–422.9	214	II.1002	175
573.19–21	45		
612.16–35	166	Suda	
613.7–13	166	K 2193	260
613.9	239	Syrianus	
625.28	166	<i>In Metaphysica</i>	
631.38	166	49.8–17	243
634.11–31	216	91.20–92.10	215
636.8–13	166	91.31–32	220
638.2	166	91.31–34	225
639.23–32	166	93.2–3	220
645.7–10	239	94.19–26	220
708.27–28	54	94.30–97.17	215
708.27–29	71 n.	95.23–25	228
708.27–32	45, 73	95.26–28	225
708.28–29	58	118.2–3	197
708.29	55	123.18–124.6	218
708.32	55	123.27–31	222
708.34–36	74	186.17–19	220
708.35 ff.	55		
708.36–37	55	Themistius	
718.14	55, 61	<i>In Physica</i>	
718.14–18	45	114.7–9	45
718.17–18	56	144.24	55
718.18 ff.	74	144.24–29	45, 73
718.19 ff.	54	144.25	58
719.11	61	144.27–29	55
719.14–18	75	144.30–145.2	60
774.18 ff.	75	149.4	55, 61
774.35–37	75	149.4–7	45
798.30–32	55	149.7–8	56
911.9–11	179	149.7–13	60
1039.13 ff.	57		
1039.13–15	45		
1247.27–1248.10	207		
1248.3–8	206		
1248.8	214		
1248.21–1249.13	214		

Theon Smyrnaeus

Pseudo-Timaeus

De Utilitate Mathematicae
129.12 264
200.8 ff. 264

De Natura Mundi Et Animae
31 215.7–13 263

PHILOSOPHIA ANTIQUA

A SERIES OF STUDIES ON ANCIENT PHILOSOPHY

EDITED BY

K.A. ALGRA, F.A.J. DE HAAS, J. MANSFELD
C.J. ROWE, D.T. RUNIA, CH. WILDBERG

Recent volumes in the series

13. Nicolaus Damascenus. *On the Philosophy of Aristotle*. Fragments of the First Five Books, Translated from the Syriac with an Introduction and Commentary by H. J. Drossaart Lulofs. Reprint of the 1st (1965) ed. 1969. ISBN 90 04 01725 9
14. Edelstein, L. *Plato's Seventh Letter*. 1966. ISBN 90 04 01726 7
17. Gould, J. B. *The Philosophy of Chrysippus*. Reprint 1971. ISBN 90 04 01729 1
18. Boeft, J. den. *Calcidius on Fate*. His Doctrine and Sources. 1970. ISBN 90 04 01730 5
20. Bertier, J. *Mnésithée et Dieuchès*. 1972. ISBN 90 04 03468 4
21. Timaios Lokros. *Über die Natur des Kosmos und der Seele*. Kommentiert von M. Baltes. 1972. ISBN 90 04 03344 0
23. Iamblichus Chalcidensis. *In Platonis dialogos commentariorum fragmenta*. Edited with Translation and Commentary by J. M. Dillon. 1973. ISBN 90 04 03578 8
24. Timaeus Locrus. *De natura mundi et animae*. Überlieferung, Testimonia, Text und Übersetzung von W. Marg. Editio maior. 1972. ISBN 90 04 03505 2
26. Gersh, S. E. *Κίνησις ἀκίνητος*. A Study of Spiritual Motion in the Philosophy of Proclus. 1973. ISBN 90 04 03784 5
27. O'Meara, D. *Structures hiérarchiques dans la pensée de Plotin*. Étude historique et interprétative. 1975. ISBN 90 04 04372 1
28. Todd, R. B. *Alexander of Aphrodisias on the Stoic Physics*. A Study of the *De Mixtione* with Preliminary Essays, Text, Translation and Commentary. 1976. ISBN 90 04 04402 7
29. Scheffel, W. *Aspekte der platonischen Kosmologie*. Untersuchungen zum Dialog 'Timaios'. 1976. ISBN 90 04 04509 0
31. Edlow, R. B. *Galen on Language and Ambiguity*. An English Translation of Galen's *De Captionibus* (On Fallacies), With Introduction, Text and Commentary. 1977. ISBN 90 04 04869 3
34. Epiktet. *Vom Kynismus*. Herausgegeben und übersetzt mit einem Kommentar von M. Billerbeck. 1978. ISBN 90 04 05770 6
35. Baltes, M. *Die Weltentstehung des platonischen Timaios nach den antiken Interpreten*. Teil 2. Proklos. 1979. ISBN 90 04 05799 4
39. Tarán, L. *Speusippus of Athens*. A Critical Study with a Collection of the Related Texts and Commentary. 1982. ISBN 90 04 06505 9
41. O'Brien, D. *Theories of Weight in the Ancient World*. Four Essays on Democritus, Plato and Aristotle. A Study in the Development of Ideas 2. Plato: Weight and Sensation. The Two Theories of the 'Timaeus'. 1984. ISBN 90 04 06934 8
45. Aujoulat, N. *Le Néo-Platonisme Alexandrin: Hiéroclès d'Alexandrie*. Filiations intellectuelles et spirituelles d'un néo-platonicien du Ve siècle. 1986. ISBN 90 04 07510 0
46. Kal, V. *On Intuition and Discursive Reason in Aristotle*. 1988. ISBN 90 04 08308 1
48. Evangeliou, Ch. *Aristotle's Categories and Porphyry*. 1988. ISBN 90 04 08538 6

49. Bussanich, J. *The One and Its Relation to Intellect in Plotinus*. A Commentary on Selected Texts. 1988. ISBN 90 04 08996 9
50. Simplicius. *Commentaire sur les Catégories*. Traduction commentée sous la direction de I. Hadot. I: Introduction, première partie (p. 1-9, 3 Kalbfleisch). Traduction de Ph. Hoffmann (avec la collaboration d'I. et P. Hadot). Commentaire et notes à la traduction par I. Hadot avec des appendices de P. Hadot et J.-P. Mahé. 1990. ISBN 90 04 09015 0
51. Simplicius. *Commentaire sur les Catégories*. Traduction commentée sous la direction de I. Hadot. III: Préambule aux Catégories. Commentaire au premier chapitre des Catégories (p. 21-40, 13 Kalbfleisch). Traduction de Ph. Hoffmann (avec la collaboration d'I. Hadot, P. Hadot et C. Luna). Commentaire et notes à la traduction par C. Luna. 1990. ISBN 90 04 09016 9
52. Magee, J. *Boethius on Signification and Mind*. 1989. ISBN 90 04 09096 7
54. Fortenbaugh, W.W., et al. (eds.) *Theophrastes of Eresos*. Sources for His Life, Writings, Thought and Influence. 1992. ISBN 90 04 09440 7 set
55. Shankman, A. *Aristotle's De insomniis*. A Commentary. ISBN 90 04 09476 8
56. Mansfeld, J. *Heresiography in Context*. Hippolytos' *Elenchos* as a Source for Greek Philosophy. 1992. ISBN 90 04 09616 7
57. O'Brien, D. *Théodicée plotinienne, théodicée gnostique*. 1993. ISBN 90 04 09618 3
58. Baxter, T.M.S. *The Cratylus*. Plato's Critique of Naming. 1992. ISBN 90 04 09597 7
59. Dorandi, T. (Hrsg.) *Theodor Gomperz. Eine Auswahl herkulanischer kleiner Schriften (1864-1909)*. 1993. ISBN 90 04 09819 4
60. Filodemo. *Storia dei filosofi. La stoà da Zenone a Panezio* (PHerc. 1018). Edizione, traduzione e commento a cura di T. Dorandi. 1994. ISBN 90 04 09963 8
61. Mansfeld, J. *Prolegomena*. Questions to be Settled Before the Study of an Author, or a Text. 1994. ISBN 90 04 10084 9
62. Flannery, S.J., K.L. *Ways into the Logic of Alexander of Aphrodisias*. 1995. ISBN 90 04 09998 0
63. Lakmann, M.-L. *Der Platoniker Tauros in der Darstellung des Aulus Gellius*. 1995. ISBN 90 04 10096 2
64. Sharples, R.W. *Theophrastus of Eresus*. Sources for his Life, Writings, Thought and Influence. Commentary Volume 5. Sources on Biology (Human Physiology, Living Creatures, Botany: Texts 328-435). 1995. ISBN 90 04 10174 8
65. Algra, K. *Concepts of Space in Greek Thought*. 1995. ISBN 90 04 10172 1
66. Simplicius. *Commentaire sur le manuel d'Épictète*. Introduction et édition critique de texte grec par Ilsetraut Hadot. 1995. ISBN 90 04 09772 4
67. Cleary, J.J. *Aristotle and Mathematics*. Aporetic Method in Cosmology and Metaphysics. 1995. ISBN 90 04 10159 4
68. Tieleman, T. *Galen and Chrysippus on the Soul*. Argument and Refutation in the *De Placitis* Books II-III. 1996. ISBN 90 04 10520 4
69. Haas, F.A.J. de. *John Philoponus' New Definition of Prime Matter*. Aspects of its Background in Neoplatonism and the Ancient Commentary Tradition. 1997. ISBN 90 04 10446 1
71. Andia, Y. de. *Henosis*. L'Union à Dieu chez Denys l'Aréopagite. 1996. ISBN 90 04 10656 1
72. Algra, K.A., Horst, P.W. van der, and Runia, D.T. (eds.) *Polyhistor*. Studies in the History and Historiography of Ancient Philosophy. Presented to Jaap Mansfeld on his Sixtieth Birthday. 1996. ISBN 90 04 10417 8
73. Mansfeld, J. and Runia, D.T. *Aëtiana*. The Method and Intellectual Context of a Doxographer. Volume 1: The Sources. 1997. ISBN 90 04 10580 8
74. Slomkowski, P. *Aristotle's Topics*. 1997. ISBN 90 04 10757 6
75. Barnes, J. *Logic and the Imperial Stoa*. 1997. ISBN 90 04 10828 9
76. Inwood, B. and Mansfeld, J. (eds.) *Assent and Argument*. Studies in Cicero's *Academic Books*. Proceedings of the 7th Symposium Hellenisticum (Utrecht, August 21-25, 1995). 1997. ISBN 90 04 10914 5

77. Magee, J. (ed., tr. & comm.) *Anicii Manlii Severini Boethii De divisione liber*. Critical Edition, Translation, Prolegomena, and Commentary. 1998. ISBN 90 04 10873 4
78. Olympiodorus. *Commentary on Plato's Gorgias*. Translated with Full Notes by R. Jackson, K. Lycos & H. Tarrant. Introduction by H. Tarrant. 1998. ISBN 90 04 10972 2
79. Sharples, R.W. *Theophrastus of Eresus*. Sources for his Life, Writings, Thought and Influence. Commentary Volume 3.1. Sources on Physics (Texts 137-223). With Contributions on the Arabic Material by Dimitri Gutas. 1998. ISBN 90 04 11130 1
80. Mansfeld, J. *Prolegomena Mathematica*. From Apollonius of Perga to Late Neoplatonism. With an Appendix on Pappus and the History of Platonism. 1998. ISBN 90 04 11267 7
81. Huby, P. *Theophrastus of Eresus*. Sources for His Life, Writings, Thought and Influence. Commentary Volume 4. Psychology (Texts 254-327). With Contributions on the Arabic Material by D. Gutas. 1999. ISBN 90 04 11317 7
82. Boter, G. *The Encheiridion of Epictetus and Its Three Christian Adaptations*. Transmission and Critical Editions. 1999. ISBN 90 04 11358 4
83. Stone, M.E. and Shirinian, M.E. *Pseudo-Zeno. Anonymous Philosophical Treatise*. Translated with the Collaboration of J. Mansfeld and D.T. Runia. 2000. ISBN 90 04 11524 2
84. Bäck, A.T. *Aristotle's Theory of Predication*. 2000. ISBN 90 04 11719 9
85. Riel, G. Van. *Pleasure and the Good Life*. Plato, Aristotle, and the Neoplatonists. 2000. ISBN 90 04 11797 0
86. Baltussen, H. *Theophrastus against the Presocratics and Plato*. Peripatetic Dialectic in the *De sensibus*. 2000/ ISBN 90 04 11720 2
87. Specia, A. *Hypothetical Syllogistic and Stoic Logic*. 2001. ISBN 90 04 12073 4
88. Luna, C. *Trois Études sur la Tradition des Commentaires Anciens à la Métaphysique d'Aristote*. 2001. ISBN 90 04 120074 2
89. Frede, D. & A. Laks (eds.) *Traditions of Theology*. Studies in Hellenistic Theology, its Background and Aftermath. 2001. ISBN 90 04 12264 8
90. Berg, R.M. van den. *Proclus' Hymns*. Essays, Translations, Commentary. 2001. ISBN 90 04 12236 2
91. Rijk, L.M. de. *Aristotle – Semantics and Ontology*. 2 volumes.
Volume I. General Introduction. The Works on Logic. 2002. ISBN 90 04 12324 5
Volume II. The Metaphysics. Semantics in Aristotle's Strategy of Argument. 2002. ISBN 90 04 12467 5
92. Finamore, J.F. & J.M. Dillon. *Iamblichus De Anima*. Text, Translation, and Commentary. 2002 ISBN 90 04 12510 8
93. Fortenbaugh, W.W., R.W. Sharples, & M.G. Sollenberger. *Theophrastus of Eresus*. On Sweat, on Dizziness and on Fatigue. 2003. ISBN 90 04 12890 5
94. Tieleman, T. *Chrysippus' On affections*. Reconstruction and Interpretation. 2003. ISBN 90 04 12998 7
95. Görler, W. *Kleine Schriften zur hellenistisch-römischen Philosophie*. Herausgegeben von C. Catrein. 2004. ISBN 90 04 13736 X
96. Polito, R. *The Sceptical Road*. Aenesidemus' Appropriation of Heraclitus. 2004. ISBN 90 04 13742 4
97. Fortenbaugh, W.W. *Theophrastus of Eresus*. Sources for his Life, Writings, Thought and Influence. Commentary Volume 8. Sources on Rhetoric and Poetics (Texts 666-713). 2005. ISBN 90 04 14247 9
98. Perkams, M. & R.M. Piccione (Hrsg.) *Proklos. Methode, Seelenlehre, Metaphysik*. Akten der Konferenz in Jena am 18.-20. September 2003. 2006. ISBN 90 04 15084 6

99. Schäfer, C. *Philosophy of Dionysius the Areopagite*. An Introduction to the Structure and the Content of the Treatise *On the Divine Names*. 2006. ISBN 90 04 15094 3
100. Delcomminette, S. *Le Philèbe de Platon*. Introduction à l'Agathologie Platonicienne. 2006. ISBN 90 04 15026 9
101. Fortenbaugh, W.W. *Aristotle's Practical Side*. On his Psychology, Ethics, Politics and Rhetoric. 2006. ISBN-10: 90 04 15164 8, ISBN-13: 978 90 04 15164 2
102. Brancacci, A. & P.-M. Morel (eds.). *Democritus: Science, The Arts, and the Care of the Soul*. Proceedings of the International Colloquium on Democritus (Paris, 18-20 September 2003). 2007. ISBN-10: 90 04 15160 5, ISBN-13: 978 90 04 15160 4
103. Huby, P. *Theophrastus of Eresus*. Sources for his Life, Writings, Thought and Influence. Commentary Volume 2. Logic. With Contributions on the Arabic Material by Dimitri Gutas. 2007. ISBN-10: 90 04 15298 9, ISBN-13: 978 90 04 15298 4
104. Sider, D. & C.W. Brunschön (eds.). *Theophrastus of Eresus*. On Weather Signs. 2007. ISBN-10: 90 04 15593 7, ISBN-13: 978 90 04 15593 0
105. Mirhady, D.C. (ed.). *Influences on Peripatetic Rhetoric*. Essays in Honor of William W. Fortenbaugh. 2007. ISBN 978 90 04 15668 5
106. Bobonich, C. & P. Destrée (eds.). *Akrasia in Greek Philosophy*. From Socrates to Plotinus. 2007. ISBN 978 90 04 15670 8
107. D'Ancona, C. (ed.). *The Libraries of the Neoplatonists*. Proceedings of the Meeting of the European Science Foundation Network "Late Antiquity and Arabic Thought. Patterns in the Constitution of European Culture" held in Strasbourg, March 12-14, 2004 under the impulsion of the Scientific Committee of the meeting, composed by Matthias Baltes†, Michel Cacouros, Cristina D'Ancona, Tiziano Dorandi, Gerhard Endreß, Philippe Hoffmann, Henri Hugonnard Roche. 2007. ISBN 978 90 04 15641 8
108. Bonelli, M. *Timée le Sophiste: Lexique Platonicien*. 2007. ISBN 978 90 04 15887 0
109. Deslauriers, M. *Aristotle on Definition*. 2007. ISBN 978 90 04 15669 2
110. Bloch, D. *Aristotle on Memory and Recollection*. Text, Translation, Interpretation, and Reception in Western Scholasticism. 2007. ISBN 978 90 04 16046 0
111. Roskam, G. 'Live unnoticed'. On the Vicissitudes of an Epicurean Doctrine. 2007. ISBN 978 90 04 16171 9
112. Berg, R.M. van den. *Proclus' Commentary on the Cratylus in Context*. Ancient Theories of Language and Naming. 2008. ISBN 978 90 04 16379 9
113. Eliasson, E. *The Notion of That Which Depends on Us in Plotinus and Its Background*. 2008. ISBN 978 90 04 16614 1
114. Mansfeld, J. and Runia, D.T. *Aëtiana*. The Method and Intellectual Context of a Doxographer. Volume II: The Compendium. 2 Parts. 2009. ISBN 978 90 04 17206 7 set
115. Chiaradonna, R. & F. Trabattoni (eds.). *Physics and Philosophy of Nature in Greek Neoplatonism*. Proceedings of the European Science Foundation Exploratory Workshop (Il Ciocco, Castelveccchio Pascoli, June 22-24, 2006). 2009. ISBN 978 90 04 17380 4